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MAGAZINE

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## *A Foreword.*

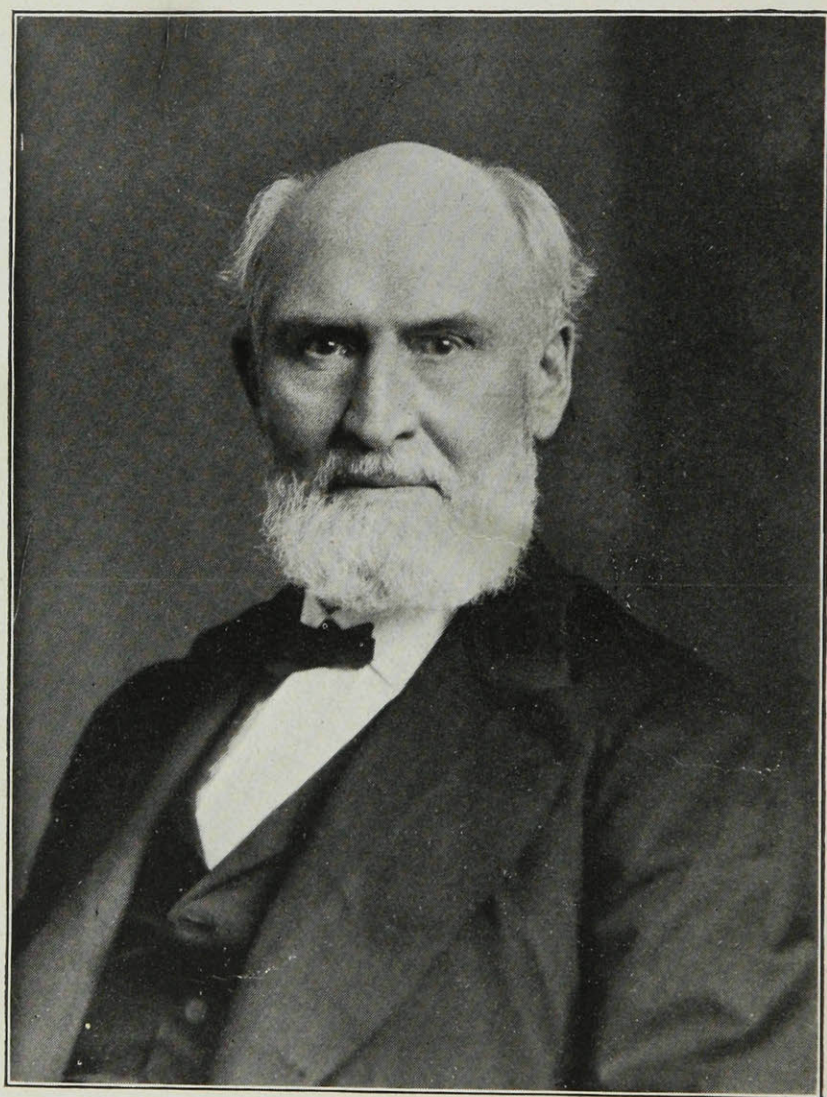


FOREWORD to a magazine, like a preface to a book, although coming first, is generally written last. This foreword is no exception to that rule.

When contributions to the Magazine were first asked for, the plan was to include at least some matter or article which would deal with either the College or its connection with McGill, of which University it is an incorporated College, or with the personnel of the Macdonald College Staff. That material has now been reserved for the second number, which, as will be noted on another page, is to be a "Trifolium" number. The original plan of dividing the Magazine into sections, with sub-sections in two of these, has been adhered to. The leading articles at the beginning of the Magazine, as will be observed, relate to no particular section, but are of general interest, not only to those at the College, but also to a larger public. In the next issue the subject of Dr. MacFarlane's article will be dealt with from another standpoint, namely that of the French Canadian himself. It will be a very interesting article, compiled by one of the Editors of a great French daily. The first article of this number contributed by Dr. Robertson, will also be continued in No. 2. Other articles promised for No. 2 are mentioned elsewhere. The illustrations have been measured out according to our space and means. For the second number twice, perhaps three times, perhaps four times, the number of illustrations can be promised.

The advertisements in the Magazine will be of much interest to the students, who know that in their advertisers they have friends who will be willing to increase their support as they in turn find the Magazine doing its duty by them.

The Editorial Staff wishes to express its appreciation of all the kindnesses and courtesies extended to it by the Macdonald College Staff, the students, and friends outside the College.



SIR WILLIAM C. MACDONALD



## SIR WILLIAM C. MACDONALD



SIR WILLIAM C. MACDONALD, whose portrait faces this page and to whose munificence this College owes its existence, was born at Glenaladale, Tracadie, P.E.I., in 1831. His father, the Hon. Donald McDonald, was for some time president of the Legislative Council of Prince Edward Island.

His grandfather, Captain John McDonald, was the eighth chief of the clan of McDonald of Glenaladale, who came to Prince Edward Island in the eighteenth century and founded Scotch settlements at Tracadie, Scotch Fort, Glenfinnin and Fort Augustus.

William C. Macdonald was educated at the Central Academy, Charlottetown, which he entered in 1844 when thirteen years old. This academy is now known as the Prince of Wales College. His first business training he received in the same city, under Hon. Daniel Brennan.

In 1848 he left Prince Edward Island. After a period spent in Boston, Mass., and New York City, he came to Montreal, where he started business as an importer and commission merchant. Subsequently he founded a business as a tobacco merchant and manufacturer, and now owns an extensive factory and warehouse in Montreal.

He is a governor of McGill University, a governor of the Montreal General Hospital, and holds several other honorary positions in the same city. Sir William is known throughout Canada as a munificent benefactor to McGill University, having contributed at different times a series of benefactions, which have placed the science departments of the University in the front rank of the colleges of America and enabled its graduates to study the sciences under the most favorable circumstances.

Beginning in 1899 he provided the Macdonald Manual Training Fund, by means of which Manual Training Centres were established and maintained for a period of years in 21 places in Canada from the Atlantic to the Pacific. In continuation of that benefaction he donated the Macdonald Rural Schools Fund, under which object lessons in the consolidation of rural schools and the maintenance of school gardens were given.

In 1902 he gave the money to build and equip the Macdonald Institute and Macdonald Hall for the Province of Ontario in connection with the Ontario Agricultural College at Guelph.

Since 1904 he has been founding, equipping, extending and endowing Macdonald College.

Sir William has always been reticent regarding his gifts. McGill University and Macdonald College have not been the sole recipients of his bounty in money and in personal service. A full list of his benefactions has never been published but enough is known to permit it to be said that a round ten millions of dollars is not far from the amount which has been given graciously and unostentatiously for the furtherance of education and wise charities, by this citizen, who has studied and practised the art of large giving for the public good.

## The Best We Can Do.

By JAS. W. ROBERTSON, LL.D., D.Sc., C.M.G.



THE main effort of man in dealing with material things has been to improve the face of the earth as a home for himself and his children. That was not merely a beautiful poetic concept which made man begin his consciously moral and social life in a garden. It is the fitting place for a home, and for children. Nothing else comes up to it—children playing on the grass, picking the flowers and climbing the apple trees. That is humanity's perennial Eden.

We have a superb heritage. We did not make it, buy it or achieve it, except in small measure. We entered upon the unearned ownership of an inheritance, the greatest any people ever

possessed. When or where before in the history of the world did ever seven millions of people own half a continent like unto this? It is a great landed estate and it is worth while to spend ourselves that the people may be equal to its opportunities. One likes to look upon it in the green garments of summer and also when covered by the sparkling white of winter's cloak, to gaze on the everlasting hills, the sweet valleys, the running streams and the vast plains with their accumulated wealth in the fertile soils, and then to visit the homes of the people who live here and see whether they match this land. If they do not, is not the fault that of our education? Is anything better worth our while than to help the people to



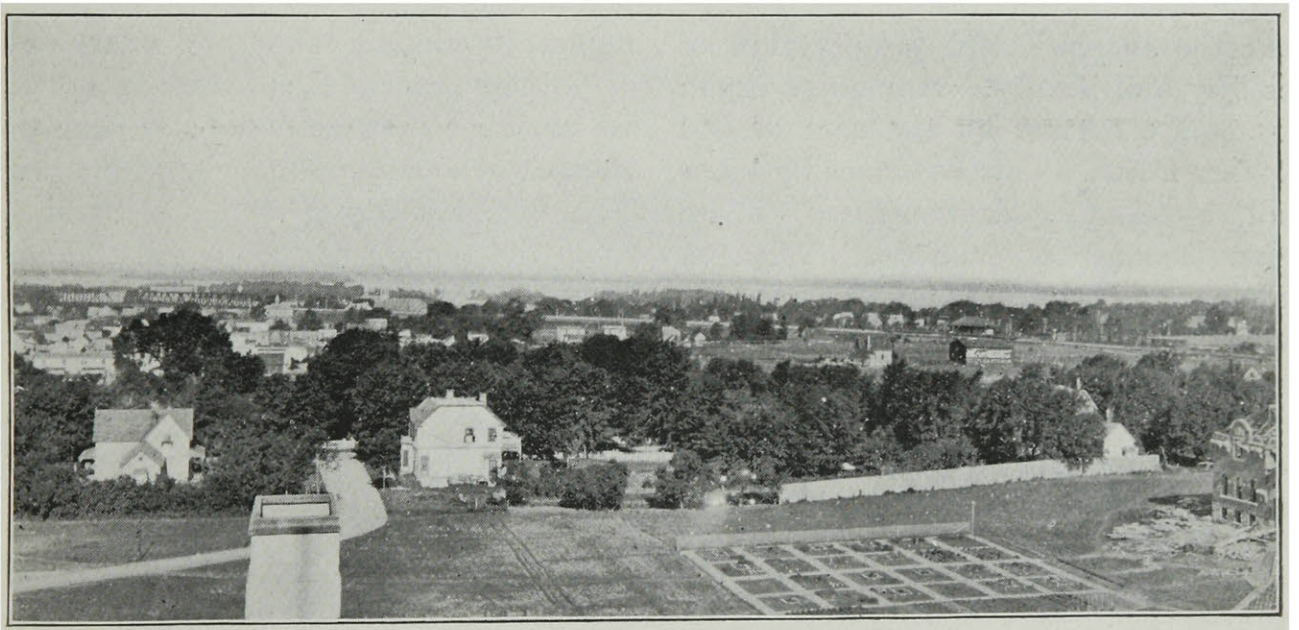
THE BIOLOGY—BACTERIOLOGY BUILDING.



match this matchless heritage? We will come to our own through our children.

Many years ago I helped to dig out the foundation for our home at Ottawa; and down in the sands of Sandy Hill I picked out sea shells. That had once been a sea shore or an ocean bed. Afterwards thousands of feet of ice had slowly crunched over the spot; and perhaps in the ages yet to come, Parliament Hill, with all its hot talk, may again be cooled off by a thicker glacier. There

That is the one thing worth our best thought, our best labor, our best love. Sweeping away all sordid surroundings, let us help to make the earth a better place for the child, with the child itself at its best for the work of life before starting upon it, with a better, cleaner and safer path along which to travel. Did not the Great Teacher say, "Of such is the Kingdom of heaven"? Maybe earth and heaven are not so far apart as we used to think they were. Maybe the vision of the new heaven and the new earth is but to see the beauty of



THE VILLAGE OF STE. ANNE DE BELLEVUE, AND THE OTTAWA RIVER IN THE DISTANCE.  
Views taken from the College Campus.

is a long spread-out rotation, with old mother-earth still in the process of making. What is enduring? Child life. We always have the child with us; and we want a better child with a better chance. That is worth while. In the onward progress of events, the scythe and the tooth of old Father Time will reap and cause to decay. Change will undoubtedly follow change in everlasting succession. Our modern railways may soon be superseded by some new means of transportation. Who knows? But the child-life of the race will go on.

Quebec, or some other part of our beloved land, redeemed by education into a people's home wherein dwelleth righteousness.

Every child begins life helpless, ignorant, and selfish. All experiences which help it out of that state are educational and in the right direction. An uneducated person is one who is ignorant, who is helpless, who is selfish. No matter which of the three qualities is taken, they are severally or collectively the stamp of the uneducated.

As there is progress out of ignorance into enlightenment, out of helplessness into personal ability, and out of selfishness into public spirit, there is so much substantial gain. With this in mind, one does not find it difficult to harmonize vocational training with training for culture. Culture is almost as elusive a term as education. The man on the farm obtains some light on its intrinsic nature from the study of agriculture. For him culture stands for crops, the best in quality and largest in quantity that can be obtained, the suppression of weeds, insects, and disease, and the increase and preservation of fertility and beauty. Humanity began to acquire culture by the care of Old Mother Earth. Culture comes by labor and by love. Maybe there is no other means of culture. Idleness, indolence, sloth and luxury are not culture. They are but means and evidence of corrosion and decay. Culture in its outflow is for service and in its residuum always towards truth, beauty and goodness.

---

Our achievements are summed up in children and their opportunities. In our expanding powers and increasing wealth we should try to get more spent, not for ourselves but for children. To make rural education thoroughly effective costs a good deal; but is there any better use to which wealth and talent could be put than in securing to this and succeeding generations a better start in life, with a cleaner, safer road, along which to go? The costs of education never keep a people poor. Quite the opposite is the case. Ignorance, inability, and want of goodwill all come from want of education or from poor schools. These are the most costly charges upon life and property.

We people in Canada ought to have enough sense now to know that taxes are not a tribute to some foreign power, but that taxation for schools is the measure of our civilization. Thereby everybody chips in to do the one thing needful for all the people, which no one can do alone but which all can do together, with great benefit to each. To chip into the common fund for the benefit of the children of the whole land is an index, if not a measure, of Christianity. If we will have a land worth while, a people able and willing perennially to redeem its face by happy homes, intelligent labor and every sort of intellectual and spiritual goodwill, we must see that we make and keep the country school a good place for children. Through it we may help to build in them the temple not made with hands. Thus we shall become a great people by means of the labor and the love of those who teach in our schools. Thus shall intelligence and ability, energy and goodwill, joyousness and goodness make the nation great.

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Is there a rotation of civilizations like unto that of crops? One crop should make the land ready for the next and yield seed for larger and better crops on other areas. As yet we are but seven millions; but when we are thirty millions—as we shall be before many scores of crops have been reaped—shall we not be a dominant people among the nations? With the travel of the world beginning to cross our threshold from East and West and South, shall we not seek to dominate, not by subjecting others to us but by lifting them to our levels or higher? All this effort in education for the improvement of rural conditions is some-



thing more than crops and cattle and produce and profits. It is part of a mission to qualify the people to live for and by high ideals. Man shall not live by bread alone but by every λογος of the Earth and the Infinite. We are not of yesterday nor of the last thousand years only. Let us sometimes think back of the struggle and privation, of the courage and fear, of the anguish and the triumph, of the faith, hope and love, of those who have come to 'Mastery for Service', and

who by mastery, careless of personal ease, have brought the otherwise impossible to pass. It is for us to pass on the quality of life and its opportunities, not only unimpaired but improved, strengthened and enriched by our tenure as trustees. The main thing in the trust, in the rotation, is that the next crop of trustees shall be ready for their field, their harvest and their seed. As it was in the beginning, is now and ever shall be, world without end.



THE OTTAWA RIVER, FROM THE COLLEGE.

# The Need of an Agricultural Survey for Quebec.

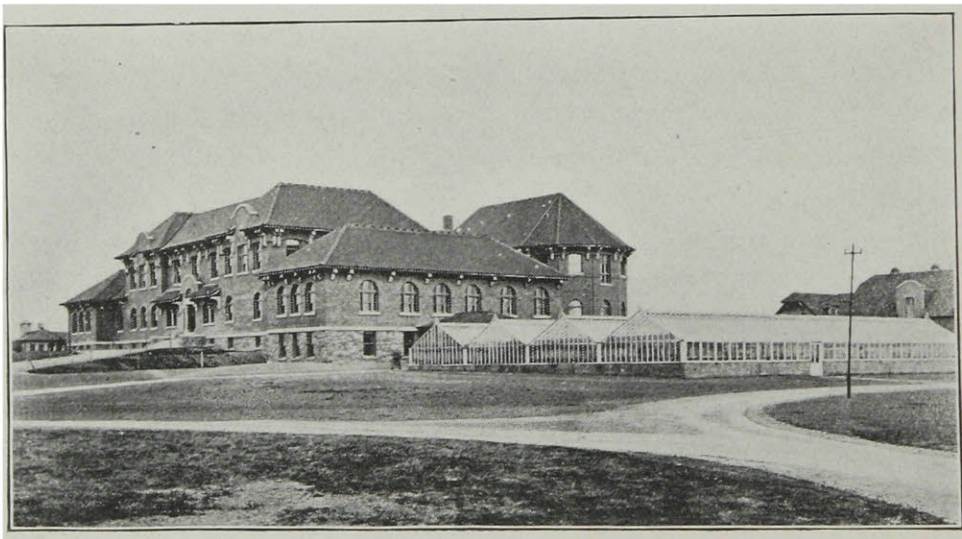
BY PROFESSOR W. LOCHHEAD, B.A., M.Sc.,  
Professor of Biology, Macdonald College.



HE working materials of the agriculturist are the soil, the plant and the animal. If he sees nothing more in the soil than so much earth gradually becoming poorer with each successive crop grown upon it; if he fails to grasp the great possibilities of the plant through proper selection of the seed and cultivation of the soil; and if he does not understand the importance of careful selection in

Everybody cannot be a farmer nowadays.

When we consider the great advances of recent years in the improvement of plants and animals, and in the handling of the soil, it becomes very evident that he who keeps to himself and does not attempt to keep abreast of the times is sooner or later doomed to drudgery and disappointment. It is therefore the duty of every farmer to take advantage of every available means of



THE AGRICULTURE—HORTICULTURE BUILDING AND THE HORTICULTURAL GREENHOUSES, MACDONALD COLLEGE.

animal breeding, his outlook is truly far from inviting. It means uninteresting work, even drudgery, and sooner or later, a worn-out farm heavy with debt.

Farming as a profession has been too long ignored. Agriculture is one of the finest of fine arts, and one of the most complex of sciences. It requires the most careful study to get the best results.

keeping himself informed regarding the best methods and practices in the special line of agriculture in which he is more specially interested.

A competition has arisen for the capture of the foreign markets, necessitating better products, cheaper transportation, and mutual co-operation in buying and selling. Moreover, with the largely increased population the con-



ditions of life have greatly changed, largely for the better, so that it is out of the question for the 20th century farmer to hold to the traditions of the 18th and 19th centuries. There has therefore, arisen a demand for more definite information regarding the best methods and practices in matters relating to live stocks, crops, fruit-growing, dairying, etc.

An accurate knowledge of our own agricultural capabilities is one of the greatest needs of the present day. Most of us will admit that we are woefully ignorant of the conditions that prevail over a large part of this Province, and that we have no exact definite information as to the status of the agricultural industries in the different districts.

When we consider the great diversity of the physical features of this large Province, ranging from the level, prairie-like stretches south of the St. Lawrence to the undulating tracts of the southwest, and on to the hilly and even mountainous areas of the east and north, we recognize at once that there must of necessity exist great variations in the types and distribution of soil, in the altitude of the land, in local climatic conditions, in the character of the crops grown, and in the general conditions of rural life.

A thorough exact knowledge of every locality is required before the general principles that are being worked out by our agricultural experts can be applied to the special conditions of the different localities. Ignorance of local conditions has frequently retarded the introduction of better farm practices, because the suggestions and recommendations were not applicable to the particular locality; whereas in some other districts, where the soil, climate and other conditions are different, the recommendations could

and would be carried out with success. Successful farming is based on a knowledge of the local facts. Without this knowledge there can be no real articulation between the teaching and the practice.

The question naturally arises: How is this knowledge to be obtained so that it will be of service to both the expert teachers and the farmers? First, much information might be secured through an Agricultural Commission appointed by the Provincial Government. Sessions could be held in as many counties as possible, with the double object of securing the views of the more prominent local farmers regarding the conditions that obtain in their respective districts, and of allowing the members of the Commission to observe conditions for themselves. The full report of the Agricultural Commission when published would be a valuable preliminary contribution to the status of rural conditions, for at best, it would necessarily be general rather than of specific value. Second, it should be followed by a more thorough and exact inquiry into local conditions by men who are specially trained to do such work. This study would require several years to get the desired data, and would involve an annual expense of five or six thousand dollars, but the information would furnish the data and suggestions for effective work on locality problems. The inquiries would relate to the following among other factors; methods of cultivation and rotation of crops, best types of farming, the leading crops and the methods of handling them, the types of soil and their distribution, drainage systems, fertilizers and manures, climatic conditions, the relation of altitude to crop production, transportation facilities, co-operation in buying and selling, the noxious weeds, the in-

jurious insects, water-power, roads, farm homes, farm stables and barns, farm forestry, schools, social organizations, etc., etc.

The time is surely ripe for the establishment of a soil-survey, when we reflect upon the fact that the value of the annual products of the soil of the Dominion has reached the enormous sum of five hundred million dollars, and that the advancement of agriculture means a sound foundation for all the

an opinion as to the more profitable occupation for each soil."

Such in brief should be the scope of work of a soil-survey. This information may be obtained through long years of experience, as has been done in older lands, often involving however, dire distress to generations of workers who were groping in the dark without that knowledge that would have brought relief. It is one of the privileges of the agriculturists of the twentieth century



A PIECE OF SWAMP LAND TYPICAL OF MANY PARTS OF QUEBEC—PICTURESQUE, BUT USELESS FOR AGRICULTURAL PURPOSES TILL DRAINED.

industrial activities of the Dominion.

A soil-survey should furnish us with

(1) the character, location and extent of the various soils in the different districts;

(2) the capabilities of these soils for crop production under the present system or under an improved system of management;

(3) "an unprejudiced statement of facts concerning each soil and its uses in each area, and, wherever possible,

to profit by the experiences of the centuries preceding, and the government should feel it their duty to give the farmers such information as would save them needless loss and work. If we are "the heirs of all the ages," then let the farmers receive the benefits of the experiences of the past.

It need not be explained here that a complete soil-survey cannot be made in a year or two. It will require many years to do the work, and there are many

difficulties in the way at first. First of all, a corps of trained soil-surveyors would have to be trained for the special work in view. Our agricultural colleges, however could help materially in the selection of capable men from the ranks of their graduates.

The Bureau of Soils of the United States Department of Agriculture maintains a field force of over 60 men, working in different parties and completing detailed work in about 60 different areas, covering a total area of approximately 40,000 square miles each year. But in the United States the soil-survey has all the advantages of a previous contour-survey which has been completed in many States. Canada labors under the serious drawback that she has not even a contour-survey, except in one or two mineral areas.

A soil survey is no useless fad. It is a most important and desirable agency to be set in operation for the improvement of the present and future status of agriculture. The farmers of this country should not rest content until they have forced the powers that be to provide the means of carrying on such a work.

While we realize fully the importance of the many Government agencies in the promotion of better agriculture, and of the work of many capable and assiduous officials in their various spheres of operation, yet we feel that when we get down to actual facts we talk largely at random. This is no criticism of our work in this Province, for the same conditions obtain in the other Provinces

and in most States to the south of us. We are making great progress, and it is with the sincere belief that the next step in advance must be along the lines indicated, that we now urge the collation of definite agricultural data. Ontario had its Agricultural Commission Report in 1881, which marked the beginning of the wonderful progress that has taken place since. New York has completed a series of orchard surveys of counties, and is so well pleased with the results that more surveys will soon be undertaken. Other States are following New York's lead, and much money is now being appropriated for the purpose of getting accurate data.

Every department of modern life with its constant change in industrial conditions, due to new applications of science, demands better training and greater adaptability on the part of every citizen, and no department requires greater training and adaptability than agriculture under modern conditions. Science has furnished an immense amount of suitable information that has practically revolutionized the older methods of agriculture; and it is very important that the coming rural citizens should enter into the possession of this information with the ability to apply the new knowledge in new combinations, to realise quickly the bearing of new developments of knowledge upon customary ways of doing things and upon the probable demands for new kinds of service.

## The French and English in Canada—A Plea for Amity.

BY DOUGLAS MACFARLANE, Ph.D.,  
Lecturer in English and History at Macdonald College.



THE adjustment of the political and social relations between peoples of different national origin living under one government and retaining, along with other characteristics of nationality, their own languages, calls for nice discrimination.

Now, apart from geographical features, two of the greatest things that tend to divide humanity into different communities are language and religion. The former is, perhaps, the stronger influence; for if men, without the aid of an interpreter, are unable to understand each other, if the newspapers and books that mould their opinions speak to them in different languages, their point of view is certain to be dissimilar. Religion, while not so powerful a factor, is still to be reckoned with as a force potent in direct ratio to the sincerity with which it is held. When, however, the two are combined, and men believe that their nationality is part and parcel of their religion, and that their religion stands or falls with their nationality, these two form a wall of exclusion that is hard to break down. Such a condition has prevailed in the Province of Quebec to a very recent time. I say 'has prevailed', because events in France have caused some doubt as to whether "French" and "Roman Catholic" are synonymous terms.

It simplifies the question, however, to recognise, at the outset, the fact

that the French and English in Canada must needs see things from different points of view. This is a condition that cannot be altered by acts of parliament, or even by the most conciliatory attitude. Its roots are twined deep in all those inherited tendencies and passions that are summed up in the word "nationality." And these feelings, due to heredity, are strengthened by the influences surrounding the child during the plastic period of life. Fortunately, a sense of misgovernment in the past plays little or no part in the estrangement of the two peoples.

If freer intercourse were hampered, as in the case of England and Ireland, by the memory of past wrongs, the question would be more difficult of solution. But the British Government has treated the French in Canada with a consideration not always shown to the loser in the game of war. Alsace-Lorraine will at once occur to the mind as a modern instance. By the terms of capitulation signed in 1760, Great Britain allowed to the French-Canadians the "free exercise of the Catholic, Apostolic, and Roman religion." Any injustice, such as the imposition of the 'test oath,' which may have existed during the unsettled period that followed, was removed by the Quebec Act of 1774; for Garneau, the French-Canadian historian, acknowledges that "the law of 1774 tended to reconcile



the Canadians to British rule." The series of events that culminated in the rebellion of 1837 may seem to indicate that this reconciliation was not lasting. In Quebec, owing to the fact that most of the Tories were English and the Reformers French, the conflict was aggravated by racial feeling, and evidently was, as Lord Durham describes it in his Report, "a struggle, not of principles, but of races." But, as a matter of fact, this was not primarily



"THE HABITANT."

a question between French and English. It was an agitation that prevailed throughout Canada, a struggle between the masses contending for a larger share in the government and a privileged class of office-holders. In the English Province of Ontario, under Mackenzie, it went to the same bitter end; and it was owing to the more conservative leadership of Howe and

Wilmot in the Maritime Provinces that the struggle there assumed a more constitutional form. The Union Act of 1840 decreed that the written or printed proceedings and reports of committees of the said Legislative Council and Legislative Assembly, respectively, shall be in the English language only;" but this was repealed eight years later. In the deliberations that preceded the Federal Union of 1867, French-Canadian interests, in the hands of such men as Taché, Cartier, Chapais and Langevin, were not allowed to suffer. In Quebec, to-day, the Roman Catholic Church is, to its adherents, practically a state church; French is on a footing of equality with English as an official language; and the basis of the Civil law is French. As a great movement must be judged not by the few deviations that occur, but by its general trend and ultimate results, it is evident that the position of the French Canadian under British rule has been one of continuous improvement.

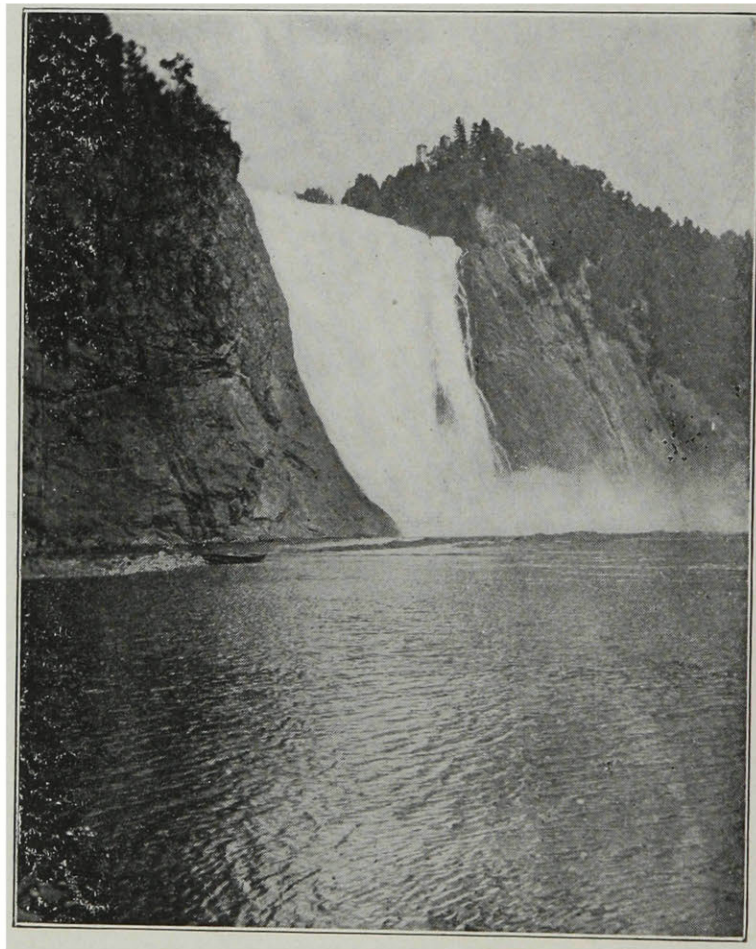
That the French, since they acquired full political power, have appreciated this treatment, is evident from the fact that they have behaved toward the minority in Quebec with fairness. There are, of course, exceptions to this: the policy of the Roman Catholic Church does certainly place the English, particularly in the rural districts, at a disadvantage. But a discussion of this question would lead us too far afield, and be contrary to the spirit of an article that is intended to lay stress upon points of agreement rather than of disagreement. The English in the Province of Quebec have found, on the whole, that the ordinary intelligent French Canadian, when left to himself, is willing to meet them half way in all that tends to a good understanding.



If estrangement, therefore, has no ground in political injustice, we must look elsewhere for the causes that lead to—if no stronger term can be used—coolness and suspicion.

Against the French Canadians several charges have been made. First, it has been said that they cannot see beyond their provincial boundaries; that instead of entering heartily into the

hopes. If it is true, as Professor Goldwin Smith asserts, that north of the Mexican frontier there is no room for two nations, there is certainly no room for three. Again, they have been stigmatized as an unprogressive race in which the virtue of contentment, in both the intellectual and material spheres, has assumed a perilously close resemblance to the vice of stagnation;



IN THE HEART OF THE COUNTRY OF THE FRENCH "HABITANT,"  
ONE OF THE BEAUTIFUL FALLS OF NORTHERN QUEBEC.

building up of a Canadian nation extending from the Atlantic to the Pacific, they are content to dream of a little French-speaking state on the banks of the St. Lawrence. Some visionaries undoubtedly have had dreams of this sort, but the well-informed French Canadian must see that the trend of affairs on this continent is against the realization of such

as a people that still lives in an atmosphere of mediævalism. The assertion has been made that in commerce and finance and in all those undertakings which develop the resources of the country, it is the English who take the initiative; that the advance made in agriculture during the past twenty-five or thirty years is also due, primarily, to the example set by the farmers



of the neighbouring Province of Ontario. But whatever truth these charges may have had a generation or two ago, they are no longer valid in respect to a growing and not inconsiderable portion of the French Canadian people.

But are the English free from reproach? Most of them, owing to a lack of knowledge of the language spoken by the French Canadian, are ignorant of his real sentiments. They see him through the eye of prejudice; they read what he says after it has passed through the translator's mill; and their judgment, consequently, is founded upon nothing better than misrepresentation. They take no trouble to hide their contempt for the French as an inferior race; but if resourcefulness, virility, and the power of self-government are marks of a strong race, the French do not suffer by comparison. A glance at a list of names in the pioneer age of Canada, and in the later period when our constitution was forming, is sufficient to convince. The English, also, are unreasonable in expecting the French Canadian to see eye-to-eye with them in things imperial. The feeling of nationality, in its broader sense, is one of slow growth. It has taken centuries to weld the different peoples of the British Isles—English, Scotch, Irish, and Welsh—into the British nation, and even yet the process is not complete. It took a Bismarck to bring the several states composing the German Empire under one centralized government, and yet, to-day, although all speak the same language, suspicion and distrust of Prussia are rife in some of the smaller members of the federation. Let those who are impatient at the attitude of the French Canadians toward imperial affairs, imagine the situation reversed, that

Canada is still a dependency of France, and then see whether they would regard the triumphs of France in, for instance, North Africa, with any particular enthusiasm. Good feeling does not thrive in surroundings of misunderstanding and contempt.

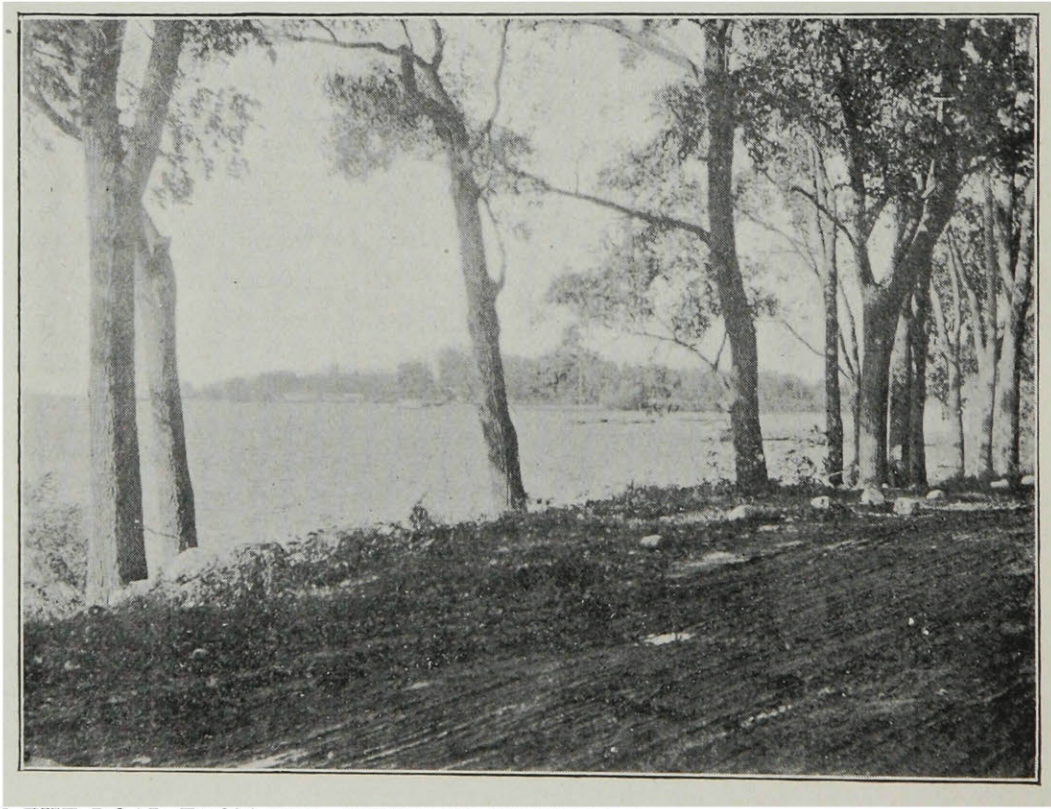
A national system of education under which all the children could meet in the schools on a common basis of Canadian citizenship, would go a long way to solve some of the difficulties. Sectarianism bred into the child is sure to remain, in the majority of cases at any rate, in the adult. In Quebec, at least, there could be no objection, from the English side, to such a system, by which all the children would be equally at home in both languages. The possible drawbacks would be immensely outweighed by the advantages gained in the disappearance of provincialism and the growth of a broad national spirit. In the higher institutions of learning, particularly in the technical schools, something in this direction is already taking place, and the young men of both races are learning to know each other better by personal intercourse. May the movement for a really national system of education grow like the proverbial grain of mustard seed!

In the mean while, as such a desirable educational system is not in sight, good feeling may be brought about by mutual respect. This can be obtained by nonestly trying to get at the truth regarding each other; by compromise in those matters not affecting principles; and lastly, by discouraging the noisy demagogues who appeal to race prejudices. For no nation has secured permanency by building upon a foundation of windy patriotism, or by erecting artificial barriers of non-inter-

course and exclusion. These may delay, but will not, in the long run, prevent such a nation from being absorbed by another which has the elements that endure: adaptability to changing circumstances, an educational system that really fits its young men and women to overcome, and cleanness of public and private life. A community that has these virtues will always command the respect, if not the love, of its neighbours.

As, therefore, no sense of political injustice embitters the relations between

the two peoples, it rests altogether upon the good-will of the present generation to strengthen the bonds of amity that should exist between fellow citizens of different origins whom Providence has thrown together. A national school system probably would be the strongest factor in bringing about the desired result; but failing this, as national prejudice, in most cases, has its origin in ignorance, much may be done by a sincere attempt to understand each other better and to lay stress upon virtues rather than vices.



ON THE ROAD FROM STE. ANNE'S TO MONTREAL, SHOWING A TYPICAL FRENCH CANADIAN VILLAGE IN THE DISTANCE.

# THE MACDONALD COLLEGE MAGAZINE.

Published by the Students.

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Vol. I.

FEBRUARY-MARCH, 1910.

No. 1

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## EDITORIAL

The publication of this, the first number of the Macdonald College Magazine, marks a fresh step in the development of the corporate life of the College. The project was mooted more than a year ago, and discussed at a general meeting of the students. Guided,

however, by the College authorities, the students decided not hastily to rush into an undertaking, whose responsibilities and difficulties they had no means of measuring. The literary ability of the College found an outlet last year in the "Trifolium". Its success

justifies, we hope, the more ambitious flight into the realm of journalism of which this issue is the first effort.

The execution of the plan has been carried out, so far as the first number is concerned, with a harmony and absence of friction as remarkable as it is gratifying, in view of the fact that the Magazine is the production of the combined efforts of three Schools, differing widely in pursuits and methods, and (we had almost added) sex. This pleasant fact is in itself at once an omen and a cause of success.

It is not intended, however, that this Magazine shall be a mere chronicle of the life of the students. A glance through the list of the contents of this number will be sufficient to dispel any such illusion. The editorial board holds indeed as one of its main objects that this Magazine shall record the more interesting and important features of the College life. But it aims also at providing literary and scientific articles on subjects connected with the various departments of research and study at the College, by writers well qualified to deal with them. The list of contributors of articles to this number sufficiently shows that this latter object has so far been successfully attained.

The great variety of the subjects dealt with, comprising such widely different conceptions as the Quebec Dairy Industry and the girl students' Initiation Ceremony, such radically opposed notions as Fletcherism and Forestry, will at once strike the reader's attention. This diversity, however, accurately reflects the many sidedness

of the College activities. We do not anticipate adverse criticism on this score.

The Editorial Board has been fortunate in enlisting, in this its first number, the pens of many contributors both skilled in literary work, and exceptionally well qualified to deal with the subjects they respectively discuss. Attention is particularly recommended to the articles entitled "The French and English in Canada" and "Forestry and Education." The first of these deals with a subject which is of interest to every one living in the Province of Quebec; the second is concerned with more material, but still immensely important, issues.

The Board is confident that the standard of the Magazine will be, in the future, fully maintained. Among other literary contributions promised are articles by Dr. F. C. Harrison, Professor of Bacteriology, and a series by Dr. C. J. Lynde, Professor of Physics, on Modern conveniences of the Farm. The present issue contains a short biography of Sir William C. Macdonald, founder of the College, accompanied by a full page photograph. This will be followed in the second number by a biographical article on Dr. J. W. Robertson, LL.D., Principal of the College, with a similar full page plate. It is the intention of those responsible for the MAGAZINE to include No. 2 and 3 in one number, to be issued about six weeks after the first. Further information on this matter is to be found on page 65.



## The Growing of Profitable Crops for Dairy Cattle.

By J. H. GRISDALE, Dominion Agriculturist at the  
Central Experimental Farm, Ottawa.



OUR keenest rivals in Dairying are Holland and Denmark. These two small corners of Europe are blessed with soil and climatic conditions no better than obtain in Eastern Ontario. When it comes to buying feeds the Dane and Dutchman must come to us, pay our prices and then transport 4,000 or 5,000 miles. We Canadians are usually satisfied with from 20 to 25 cattle to the 100 acres. The Danish and Dutch farmer wants from 75 to 100 head. They feed all these much better than we do our few. They grow all the roughage. We naturally ask how they do it.

The answer is simple. In the first place these men cultivate their farms. We usually make but a feeble pretence thereat. In the second place they grow the right crops and grow them well. We grow similar crops but handle them badly. The crops these men can grow most advantageously

we can produce in even greater abundance and with greater certainty. Besides we can grow cheaply, easily, a crop that never fails, corn.

We could grow clovers, grasses and all other forage crops as well as any Dane or Dutchman, but we don't. We should. Until we do we are not going to make the mark we might, in milk production.

So much for crops. Of cultivation I may not speak. One would think we would all know enough to do that well. Well, we don't. We are sadly lacking.

Every Canadian farmer interested in dairying should, for patriotic reasons, if for no other, try to beat these Danes and Dutch at their own game. This would be one case at least where patriotism would pay dividends in dollars and cents. Let us consider the matter of producing better forage and more of it in our Eastern Ontario farms.



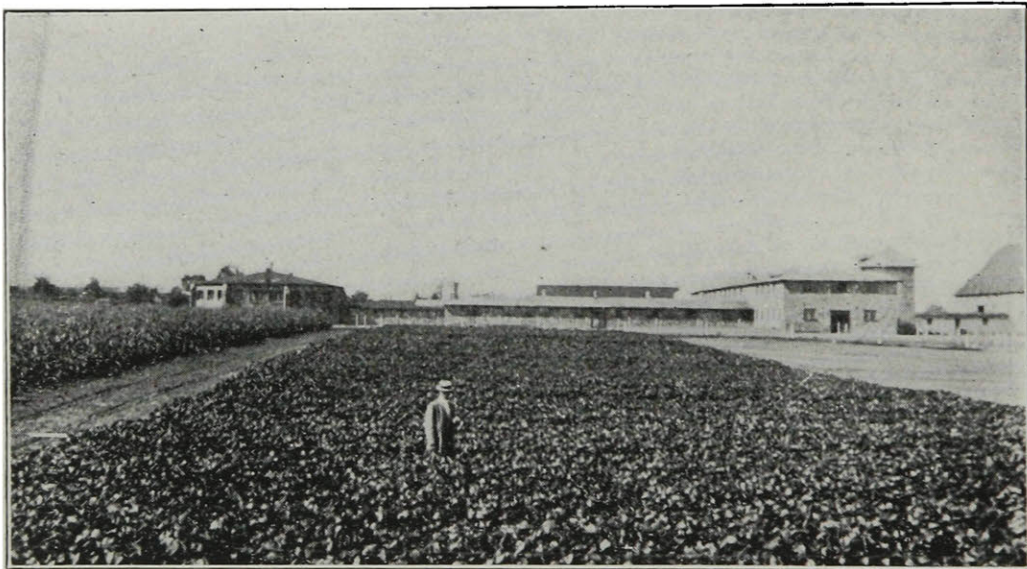
In the first place we must do our farm work better. Every extra hour's work spent upon the field pays high wages. This is true of course up to a certain point. I have never yet been able to determine just where that point was. It has always seemed to me that I might profitably have gone on a little longer. I believe the last extra hours are the most profitable hours spent on the field.

Probably the most important crop for the Eastern Ontario Dairyman is Pasture.

Pasture grass at the right stage and

Permanent pastures on arable land are not practicable, much less profitable. Hence a combination of meadow and pasture preparation seems really the thing. Good meadows and rich pastures are not spontaneous. Besides, the good meadow does not necessarily lapse into the good pasture in a year or two.

A great variety of grasses might be used for either hay or pasture. I have noticed that the more complicated any plan offered for improvement is the fewer farmers pay any attention to it. I personally have the same



A FIELD OF SOY BEANS ON MACDONALD COLLEGE FARM, THE FARM STABLES IN THE BACKGROUND.

in abundance has no superior as a dairy ration. But at best it is expensive, while generally it is a ruinously extravagant method of feeding. However, we all use it more or less and much may be said in its favor. So that since we cannot stop, let us try to mend.

Leaving rough lands or permanent pastures aside, not one farmer in a hundred in my experience makes the least effort at special preparation for pasture. The results are quite up to the preparation;—the cows starve and the farmers blame the weather.

disinclination to follow any scheme that looks complicated and I don't do it if anything simpler can be devised. Let me give you my plan for securing a good meadow, and later a first class pasture.

Prepare the land. Begin to prepare the land the year before seeding down. That is, manure and grow a hoed crop if possible. If a hoed crop is out of the question and manure is scarce, then plough from sod with a shallow furrow in late July or early August. Work well with roller, disk harrow, and culti-

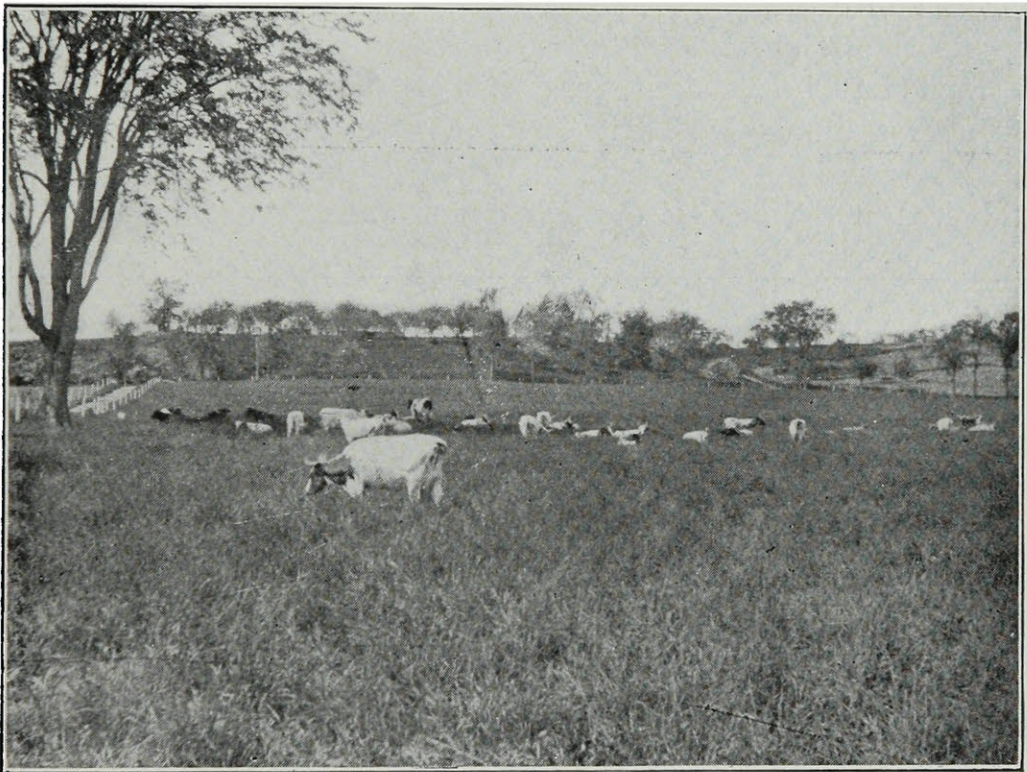


vator. Do not forget to work it well. Do not fail to work it at frequent intervals all the autumn. Replough with a slightly deeper furrow or better still ridge up with the double mould-board plough in October after the sod is well broken down or rotted. Leave it thus all winter.

Prepare for seeding by levelling with the spring tooth, stiff tooth or disk harrow. Smooth-harrow and roll. Sow 2 bushels of oats,  $1\frac{1}{2}$  bushels of barley or  $1\frac{1}{4}$  bushels of wheat per acre. Sow

entirely. The great majority of us forget about half or more and very many of us forget very nearly the whole thing. It costs quite a bit to remember in this case. I have a suspicion that that is why we so frequently and so easily forget. Forgetting is really more expensive if we would only stop to think or watch results.

The common grasses and clovers are the best to sow. Timothy, brome grass, cocksfoot or orchard grass, rye grass, mammoth clover, red western clover,



THE MACDONALD COLLEGE FARM AYRSHIRE HERD AT PASTURE.

grass and clover seed at the same time or the same day. If the land is very dry harrow the grass seed in with a very light harrow and roll. If the land is moderately dry roll only after seeding. If the land is moderately moist neither roll nor harrow at the time of seeding, but leave it till the grain covers the ground, then roll in a fairly dry time.

A most important consideration is not to forget to sow the grass and clover seed. Very few of us forget

alsike clover, and alfalfa, are all suitable. The soil, the field and the purpose in view should influence the choice. Thus there is little use in sowing cocksfoot on light soil, no use trying alfalfa on badly drained land, and mammoth clover is rather unsatisfactory for late summer and fall pasturing. For average conditions, timothy, red western and alsike clovers will give best results.

Sow enough seed. Sow 12 to 20 lbs.

Timothy, 3 to 5 lbs alsike and 8 to 12 lbs. red clover per acre. If you hesitate about sowing so much, sow a little more. If your soil is fairly rich and well drained add a few pounds of alfalfa

per acre, say 5 or 6 pounds. A couple of pounds of mammoth in place of as much of red clover might be advantageous. In heavy clay soil 4 or 5 lbs. orchard grass would do well.

This Article will be completed next issue.—Ed.

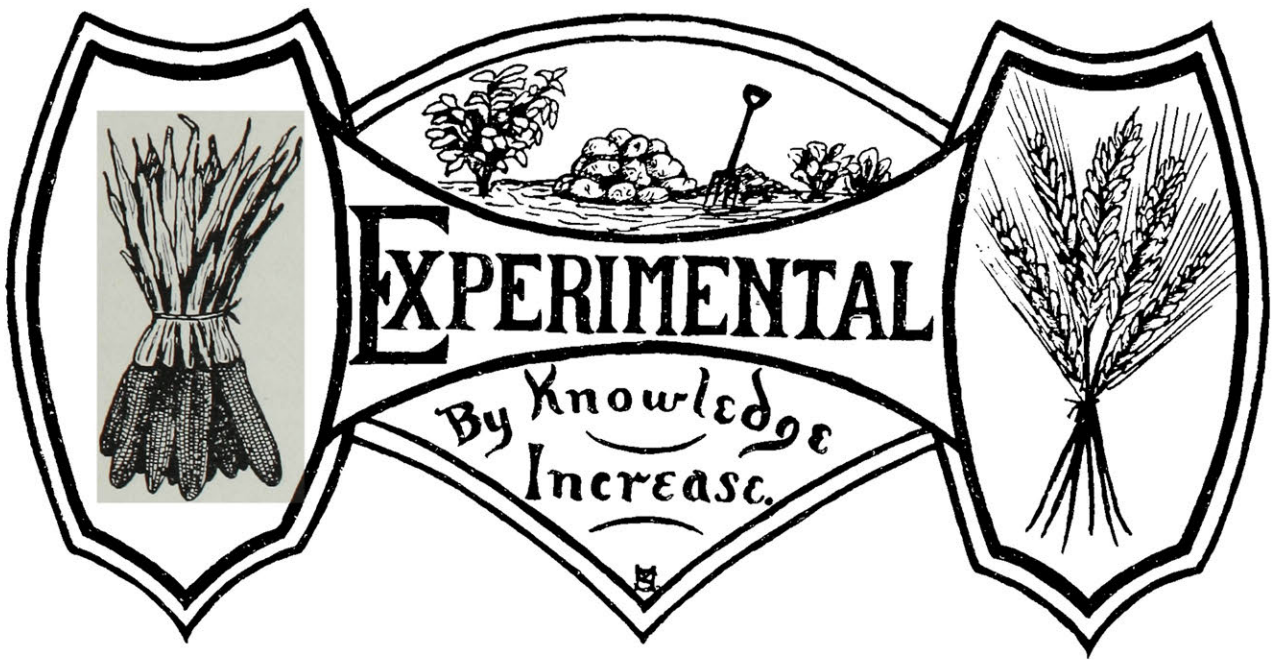
1909 Canadian Crops.

The Census and Statistics Office at Ottawa reports the value of the Canadian field crops of 1909 to exceed that of 1908 by over a hundred millions of dollars.

1908 was 27,505,663 acres, which yielded a harvest valued at \$432,534,000. In 1909 the area was 30,065,556 acres, the value of the harvest \$532,992,100. The following is a list of the principal crops, with their area, yield, and value:

	Area in Acres	Yield in Bush.	Value \$
Wheat.....	7,750,400	166,744,000	141,320,000
Oats.....	9,302,600	353,466,000	122,390,000
Barley.....	1,864,900	55,398,000	25,434,000
Rye.....	91,300	1,715,000	1,254,000
Peas.....	395,300	8,145,000	7,222,000
Buckwheat.....	282,440	7,806,000	4,554,000
Mixed Grains.....	582,100	19,391,000	10,216,000
Flax.....	138,471	2,213,000	2,781,000
Beans.....	55,970	1,324,600	1,881,400
Husking Corn.....	352,570	19,258,000	12,760,000
Potatoes.....	513,508	99,087,200	36,399,000
Roots.....	248,047	107,724,600	18,197,500
		Tons.	
Hay and Clover.....	8,210,300	11,877,100	132,287,700
Fodder Corn.....	269,650	2,779,500	15,115,500



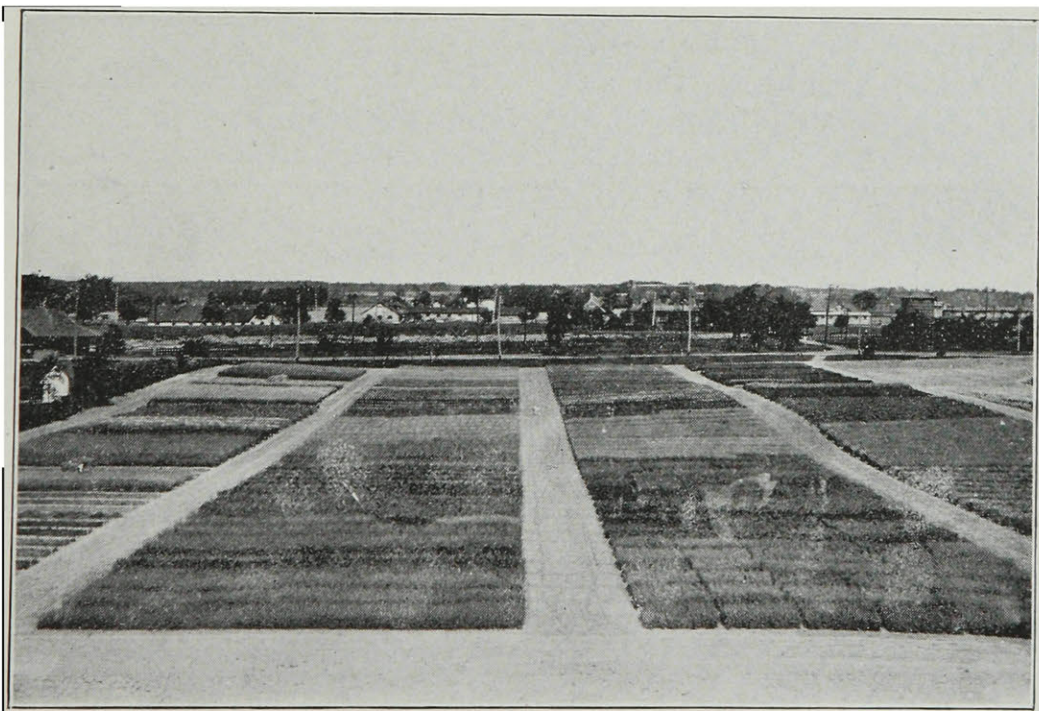


## Experiments in Dates of Seeding.



IN ORDER to ascertain the influence of time of seeding on the yield and quality of the common grains grown in Quebec, an experiment on dates of seeding was begun at Ste. Anne's. The work, which was

on Wheat, Barley, Oats and Peas, has been going on for three years. In this experiment, one plot of each kind of grain was seeded as early as was possible without injuring the texture of the soil. One week later, the second plot in the series was seeded; the



EXPERIMENTAL PLOTS, MACDONALD COLLEGE, 1909.

Promising greater potential wealth to the Province than hundreds of huge manufacturing enterprises.

remainder of the plots were sown at intervals of a week till the fifth date of seeding, there being four weeks between the times of the first and the fifth seedings. The plots in each case were the same size; the quality and the quantity of the seed were also the same in each of the five seedings. Each class of grain had its own rate of seeding; the rates per acre were:—Wheat, one bushel three pecks, Barley, two

reckoned for each plot. From these results, the influence of the different dates of seeding could be determined.

WHEAT.

The early seedings of wheat had a longer period of growth than the later seedings. The per cent. stand was greater, and the straw longer in the early seedings. (See table 1.)

TABLE NO. I—WHEAT.

Average of Three Years' Experiments.

No. of Seedings	Yield of Grain per acre	Weight of Grain per measured bushel	Weight of Straw per acre
	Bushels	Pound.	Tons
1st Seeding.....	35.55	59.25	2.44
2nd Seeding.....	26.15	58.42	1.69
3rd Seeding.....	26.19	58.00	1.62
4th Seeding.....	79.30	58.25	1.50
5th Seeding.....	22.02	57.00	1.23

bushels, Oats, two bushels, and Peas, two and a half bushels. No cultivation was given to the unseeded plots until the time of seedings when the soil was worked to make a fairly good seed bed. During the growing and ripening periods of the grains, careful notes were taken regarding the per cent. stand, length and strength of

This table shows, as will be seen, a falling off of yield of straw and grain as well as a falling off in weight per measured bushel in the later seedings.

BARLEY.

In the experiment on barley, the later seedings had a shorter growing

TABLE NO. II—BARLEY.

Average of Three Years' Experiments.

No. of Seedings	Yield of Grain per acre	Weight of Grain per measured bushel	Weight of Straw per acre
	Bushels	Pounds	Tons
1st Seeding.....	58.02	50.08	1.69
2nd Seeding.....	56.85	49.29	1.77
3rd Seeding.....	50.08	48.79	1.66
4th Seeding.....	52.17	48.17	1.70
5th Seeding.....	53.17	47.92	1.32

straw, per cent. of rust and smut, and date of ripening. After harvesting, the yield per acre of straw and grain, as well as the weight per measured bushel of the grain, was carefully

period than the earlier seedings. There was no relation in the length of straw and per cent. of stand to the dates of seeding. (See table 2.)

In this case, the earliest seedings

gave the highest yield, the grain also being heavier per measured bushel; the late seedings, however, yielded better than the medium seedings.

### OATS.

As with the other two grains, the late sown oats had a shorter growing period than the early sown oats; there was no relation between the per cent. stand and length of straw and the date of seeding. (See table 3.)

The third seeding gave the highest result. The other seedings did not vary to any extent, excepting the fifth, which dropped much lower than the others.

\* \* \* \*

In this experiment it is evident that the early sown seed had a longer period in which to develop than that which was sown later. The late sown seed

TABLE NO. III—OATS.

Average of Three Years' Experiments.

No. of Seedings	Yield of Grain per acre	Weight of Grain per measured bushel	Weight of Straw per acre
	Bushels	Pounds	Tons
1st Seeding.....	70.58	33.83	2.22
2nd Seeding.....	67.39	34.33	1.68
3rd Seeding....	67.52	34.33	1.81
4th Seeding.....	63.48	34.75	1.66
5th Seeding.....	60.60	34.58	1.77

With the oats, the early seedings gave the higher yield; the grain though was heavier per measured bushel in the later seedings.

### PEAS.

The earlier seedings of peas had the longer period for growth. The stand was not affected by the date of seeding; but the straw was shorter in the early seedings than in the later ones. (See table 4.)

gave a lower yield of grain in all cases, excepting peas, where the medium seeding yielded the highest. With wheat and peas, the length of straw was affected by the date of seeding, the wheat having the longest straw and the peas the shortest in the early seedings; the length of straw of the other grains was not affected by the date of seeding. Neither, except in the case of wheat, was there any relation between the date of seeding and the yield of straw.

TABLE NO. IV—PEAS.

Average of Three Years' Experiments.

No. of Seedings	Yield of Grain per acre	Weight of Grain per measured bushel	Weight of Straw per acre
	Bushels	Pounds	Tons
1st Seeding ...	53.12	67.42	1.73
2nd Seeding.....	52.70	66.87	1.42
3rd Seeding ...	55.20	67.00	1.61
4th Seeding.....	52.84	66.08	2.04
5th Seeding.....	42.57	66.29	1.87



## Apple Growing in Quebec.

By W. S. BLAIR. Professor of Horticulture at Macdonald College.



THE Fameuse apple as grown in the Province of Quebec cannot be excelled in quality and colour. The same can be said of the McIntosh Red apple without fear of contradiction. They are dessert apples of the very highest class, are ideal of their season, and considering their ability to withstand our winter conditions we cannot, I think, hope for varieties ever being produced having more characteristics approaching the ideal. Well grown fruit of these varieties, well packed, have always brought good prices, and this condition will continue for the reason that the demand for first quality fruit is steadily on the increase.

There is no doubt whatever but that this county could become famous for its Fameuse and McIntosh Red just as the Bitter Root district of Oregon is already famous for its McIntosh Red apples. It seems to the writer that a careful survey of the question is not out of place to determine if possible

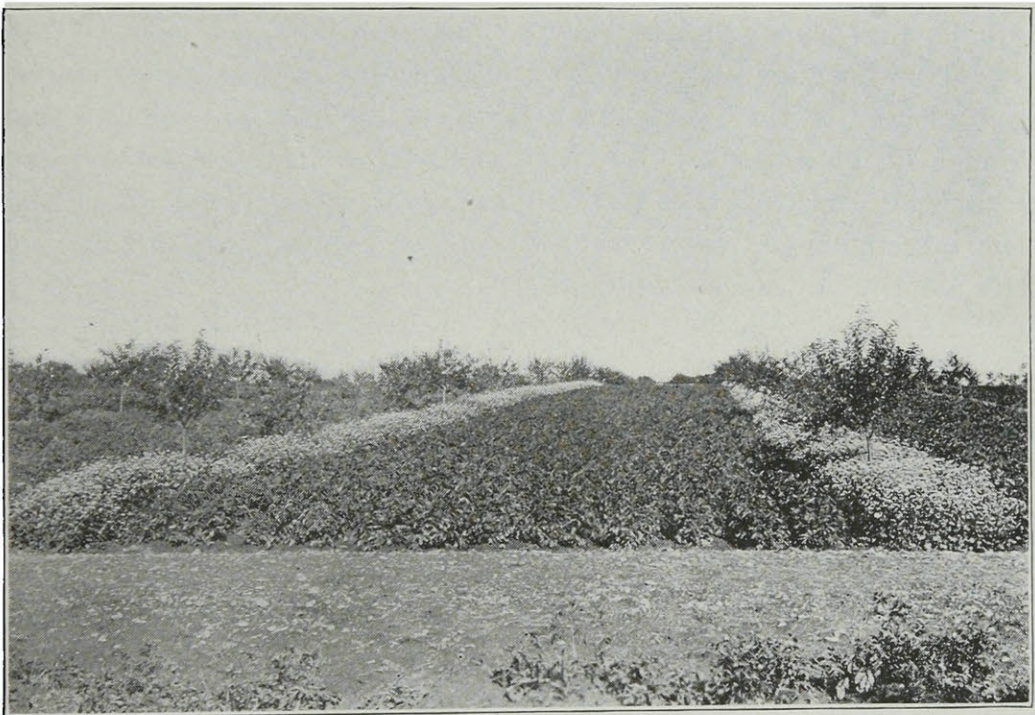
how this can be brought about. To increase the acreage now growing these varieties will not do it, for there are already thousands of Fameuse trees in the Province producing far below the percentage of fancy, and No. 1, grade of fruit they should produce, and in many cases they are not properly harvested, packed, and marketed. The question can, I think, be properly discussed under two heads; first, how to make our present orchards more profitable, and, second, how to establish new orchards so that they will return the largest profit.

I take it that the improvement of existing orchards is of the first importance. Very few are fertilized as they should be. The general impression seems to be that apples can be grown without supplying the trees with food. It has been shown repeatedly that this is not the case, and that an average crop of apples is more exhaustive of soil and fertility than an average crop of wheat or oats. Is it not as reasonable to suppose that we should fertilize



for one crop as well as the other if the best results are to be obtained? The heavier the crop of apples produced the greater the necessity for liberal applications of fertilizers in some form. This may be supplied by using 500 to 800 lbs. of complete commercial fertilizer per acre, or by applying ten to twenty tons of stable manure per acre, according to the requirements of the tree. It is not to be wondered at that so many inferior Fameuse and other

A visit to our markets or to some of the apple store-houses will convince one that there are few really fancy No. 1 apples to be obtained. They show carelessness in handling, apple spot is seen at every hand, and wormy apples add to the waste. The trees may be healthy, the ground well enriched, but unless spraying is carried on the apple worm and apple scab greatly lessen the marketable fruit. Were each Fameuse tree in the Province sprayed twice



A "TWENTY-FIVE YEAR" EXPERIMENTAL APPLE AND PLUM ORCHARD,  
MACDONALD COLLEGE, HORTICULTURAL FARM.

This picture was taken in 1909, the third year from planting.

varieties find their way to our markets, and that the consumer complains at having to buy skin and core, whereas, by feeding the tree, the same core and a little more skin would supply twice the edible pulp. By fertilizing, the producer is benefited because he increases his crop, and the consumer is pleased because he gets more and better value for his money. It is always wise to please the consumer, because in so doing trade is increased.

each year, once after the blossoms have fallen, and again two weeks later with poisoned Bordeaux made of four lbs. Bluestone and four lbs. lime to 50 gallons of water, to which is added  $\frac{3}{4}$  lb. of Paris Green or 2 lbs. of Arsenate of Lead, enough gain would result to put up and equip a proper packing and storing house in each of the principal fruit districts of the Province.

Handle the Fameuse apples like eggs. Why do people hand pick Fameuse apples

and then drop them from 4 to 18 inches into the picking basket, or instead of putting the basket down into the barrel and allowing the apples to roll out, pour them into the barrel, dropping them from 6 inches to 2 feet? The injury is not at once apparent, but when these apples go on the market these bruises show up and do cause material waste.

All of our orchards can be made to produce at least 80 per cent. first class fruit; now I venture to say they produce on the average not more than 20 per cent. really first class apples. When first class fruit is produced the question of package suitable to the fancy grades will no longer be in dispute. We will adopt, as in the case of the western grower, the box package, which is now recognized as the most suitable for fancy and No. 1 soft-fleshed dessert apples.

In locating a new orchard a well drained light loam is probably as near the ideal as any. The apple tree does well however on a variety of soils. The physical condition of the soil is of great importance. Soils difficult to work should be avoided, and good drainage is necessary. Soils having a hard pan near the surface, or a loose gravel subsoil that does not reach a water supply should be avoided. The higher elevations and slopes are generally preferred, for they as a rule are better drained, more free from frosts, and usually produce fruit of better colour.

If late spring frosts prove general or sun scalding is prevalent select a slope with Northern exposure, especially if the location is inland; if near large

bodies of water this is not necessary owing to the water producing more equable conditions. It is well to select the slope protected from prevailing or high winds.

In the preparation of the land it is well to plough and work deeply. If sufficient manure is not available to fertilize the whole area at once the ground into which the trees are set should be well incorporated with good compost thoroughly worked in.

Pruning is necessary to form a proper head, by removing surplus branches, directing the growth so that the tree will carry the largest possible amount of fruit, and giving all of the fruit free access to sunlight and air.

Spring is the best time to plant. Do it as early as possible. Secure thrifty three year old trees which are headed low. Protect the trees from drying out after they have been received, and give care in planting, seeing that good surface soil containing available plant food is well packed around the roots, so that the new feeding roots will be properly nourished; otherwise the young tree becomes stunted. Cut back the newly planted tree, leaving four to six branches and three to five good buds to a branch. This gives the tree a chance to become rooted before drying out, as is liable to happen if all the branches are left on to develop leaves. The danger is, of course, that moisture may be transpired more quickly than the new root formation can supply it.

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NOTE.—Owing to lack of space the section of this article dealing with "Cultivation" and "Cover Crops" for the orchard, had to be omitted.—Ed.

# The Advantages of a Knowledge of Horticulture.



IN all civilized countries there are always two classes of people to be found, namely, the town-dwellers and the country-dwellers.

Now at first sight one might well ask what could possibly be the advantage of a knowledge of Horticulture to the town-dweller. Truly such a knowledge does not benefit him nearly to the same extent as it does his country brother, yet knowledge on certain lines will be of use to him, as may be shown.

Take first the town-dweller, who is, it may be, compelled to live in an apartment. Such an one may greatly help to cheer himself by beautifying his surroundings by having a small but not necessarily expensive array of pot plants. And nowhere are living plants more appreciated than in the too artificial conditions to be found in the city. They help to brighten life and to put one in touch with Nature. Care of such a collection of pot plants would not require much time, but it does necessitate a knowledge of plant requirements.

Besides the apartment dweller in the cities there are also those fortunate enough to possess a house with a piece of land, smaller or larger as the case may be. In such a position a knowledge of Horticulture is of still greater benefit. Flower gardens and shrubberies may be laid out with the best possible effect. A small kitchen garden and even a fruit plantation may be worked, this depending of course upon the amount of available space; it is never well to crowd things. What is always well worth possessing if possible

is a green house. For in this plants may be kept during the winter, and are always at hand when decorations, etc. are needed.

Turn now to the second class of people, the country dweller, or the farmer. To such, all would agree, a knowledge of Horticulture would be of the greatest service. But alas! How much knowledge do you find in this class? Generally, it is only too scanty. As one passes through the country districts, how many really attractive and beautiful homes are to be found? The number is far too small. Such a condition should not exist. Every farm home should have a special portion set off round the house. Part should be given to a kitchen garden, where a good variety of vegetables may be grown. Part should be devoted to the growing of both small and large fruits, which may be preserved till winter, when anything in the fruit line is more than appreciated. Third, but not by any means least in importance is the portion that should be given to flower beds, shrubberies, lawns, which do much to making a house really home-like and cheerful. Objections will always be raised by many farmers that those things would be very nice but that they never have time to look after such a trivial matter. Also it "doesn't pay." But surely no better use could be shown for money or time than the making of a real home. Such homes would in a very great measure help to keep the farmer's boy on the farm, giving him a love for home. Thus the problem of bringing back the people from the cities to the farm would be greatly simplified.

# *Live Stock and Dairy*

## The Dairy Industry in Quebec.

BY W. F. STEPHENS,  
Secty. Treas. Canadian Ayrshire Breeders' Association.



THE evolution of dairying in Quebec is of interest to every dairyman and commercial man in the "Old Province," for with the rise of the dairy industry there comes a progression that is more marked as time advances.

In 1870 the dairy industry was almost exclusively confined to the home manufacture of butter and cheese. The butter was made during the summer months and exported largely to the United States at prices ranging from 12 to 20 cents per lb. according to quality. As the facilities for home manufacture were somewhat antiquated, much of the butter was badly made, from cream off flavor, over ripe etc., therefore much of it was of very low grade, and sold at a low price.

About 1868 some of our progressive dairymen investigated the conditions of the dairy industry in Ontario, where cheese manufacture was fast becoming a source of revenue to the Ontario farmers. The result was that in 1869 several cheese and butter factories were established and in 1871, two years after, 23 factories and creameries were operated and put out cheese and butter to the value of \$125,000. Since that time the trend of the dairy industry has been steadily upward, as the following comparisons will show.

The Census returns for 1871 credited Quebec Province as having 406,542 milch cows, valued at \$8,043,924, or about \$22 per head. The output of home made butter was 25,289,000 lbs. valued at \$4,550,000. There were also made 512,237 lbs. of home made cheese valued at about \$50,000. Then about \$800,000 worth of milk was consumed in our cities, and \$600,000 worth was used in our farm homes and fed to stock, while the output of our factories is valued at \$125,000. This gives us a total value of dairy products of \$6,225,000, or an average of \$15 per cow.

The Census of 1901 credits Quebec farmers with owning 767,825 milch cows, valued at \$20,757,611 or about \$27 per head. The milk from the greater part of these cows was made up in 1,207 cheeseries, 445 creameries and 340 combined factories, or 1902 in all. During that year these turned out 80,630,200 lbs of cheese, valued at \$7,957,621. Our creameries manufactured 24,625,000 lbs. of butter valued at \$4,916,756. Add to this the amount of butter made in the farm dairies, amounting to 18,357,188 lbs. valued at \$3,671,437. Thus we have an income from butter and cheese amounting to \$15,485,814. Since 1901 there has been an increase in the number of creameries and cheeseries until they now number over 2,100, with an increase



in the output of creamery butter and a corresponding decrease in home manufacture. While we have not the latest reliable data on hand I think we may safely estimate the output of butter and cheese in Quebec for 1909 at about \$16,000,000.

While this represents by far the larger part of her dairy output, yet we must consider the amount of milk consumed in our cities and towns as no inconsiderable amount.

It is estimated that the city of Montreal and its suburbs with a population of over 400,000 consumes well nigh, in milk and cream, (estimating cream as its equivalent in milk) over 500,000 lbs daily. Taking other cities and towns on a lesser basis, (as the ice cream trade of a city like Montreal is enormous), we find that the returns would be about as follows:—

Montreal.....	500,000
Quebec .....	60,000
Sherbrooke .....	12,000
Hull .....	13,000
Three Rivers .....	10,000
Valleyfield... ..	9,000
Other small towns and villages.	50,000
<hr/>	
A total of.....	654,000
used daily.	

(These figures are largely approximate as data could only be had for the cities of Montreal and Quebec.)

This multiplied by 365 gives us the enormous sum of 238,710,000 lbs. of milk consumed annually in our cities, towns and villages. As this milk sells for a higher price than milk delivered at the factories we may safely estimate its value at over \$3,000,000. The one Condensery of the Province situated at Huntingdon has a capacity of about 100,000 lbs. daily. They handled in

one season 6,465,626 lbs. valued at \$79,096.

The milk consumed in the farm homes for the feeding of stock may safely be estimated at about \$2.00 per cow, adding another value of about \$1,500,000. Thus we have a total estimate of the value of the dairy output of about \$20,-579,000 for 1908. This is an increase of 342 per cent over that of 1871. Basing our calculations on the last census returns there should be about 850,000 milch cows now in the Province; according to the above figures this would mean a return of \$25 per cow. This is too low for progressive dairymen. The best class of cows are used in producing milk for city trade and we know of many herds that average over \$70 per cow per annum.

The growth of the Montreal milk trade has been most marked. Previous to 1885 all the milk consumed in the city was produced by the farmers on the island or by dairymen in the city. In 1885 one or more farmers in the vicinity of Howick commenced shipping in milk by train putting in about 75 gallons per day. This increased in 1896 to 50,540 lbs. per day supplied by 100 shippers. In 1891 it had reached 200,000 lbs. and in 1908 about 400,000 lbs. The balance of the 100,000 lbs. is still drawn from dairies near the city.

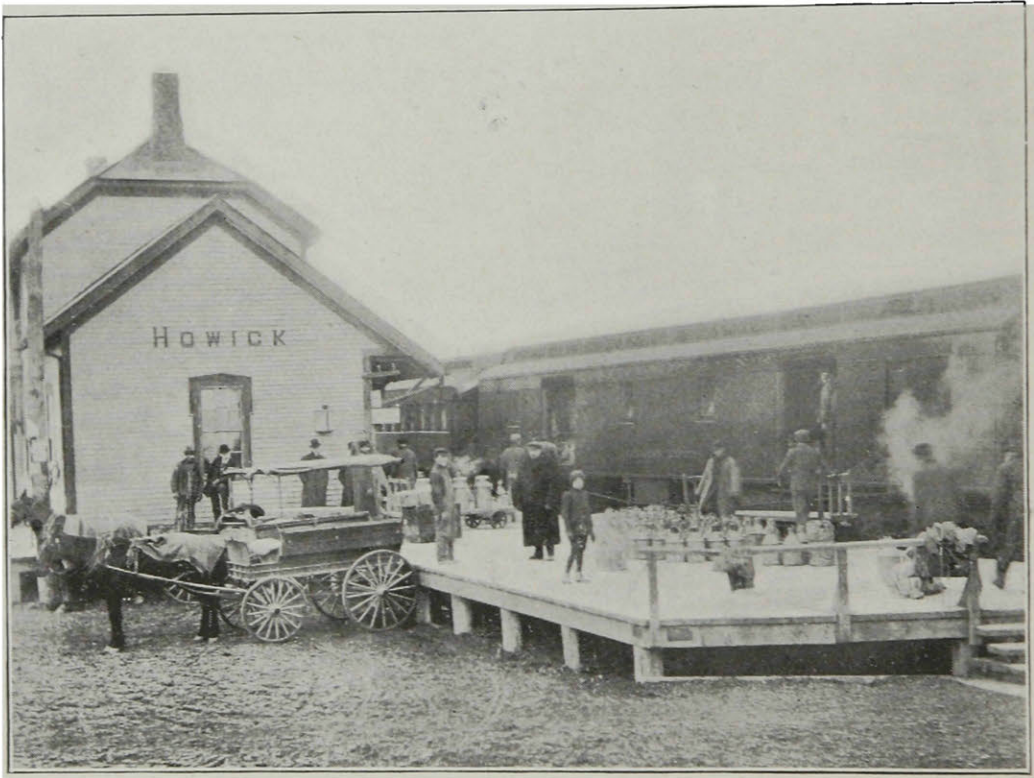
The trend of the times is to further agriculture, and particularly the dairy industry. Our legislators in Quebec have not overlooked this fact and have given assistance to this industry, which has well repaid their efforts.

A legislative measure of great value has been passed in the "Act on the Inspection of Creameries and Cheeseries," This Act calls for a system of syndicating groups of factories whereby an Inspector visits periodically these places,

and by his advice and assistance does much to help the factory-man and farmer as well. This system has stimulated a healthier growth, a greater interest, with the result that the method of manufacture is improved; as is the quality of milk offered, therefore, a higher quality of cheese and butter is made and put upon the market in neater packages. More attention is given to pressing the cheese and making it of a uniform size and curing it in cooler chambers, until, to-day our cheese

see that this is accomplished, But the farmer has his part to play in improving present conditions by giving more attention to the quality of milk delivered at the factories, seeing that it is first-class milk, delivered to a first class creamery or cheesery, made up by a first class maker. Then there will be a *first class* product, which will bring the highest price in the markets of the world.

Quebec butter has been known to excel all others in open competition. The cool climate, rich and ever verdant



HOWICK THE CENTRE FOR MANY GOOD DAIRY FARMS.  
DELIVERING MILK TO THE MORNING MILK TRAIN.

grades as high as the best "Ontarios" and there is no reason why, in our moderate climate, Quebec cheese should not stand 'second to none' in the markets of the world. In order to accomplish this, we must have larger creameries and cheeseries. (The superabundance of small factories has been the bane of Quebec's dairy industry.) The make must be more uniform and better graded. This is the manufacturers' side and our farmers should

pasture and beautiful springs of water are all favorable to the production of high class goods and it is up to our farmers to see that they are produced.

The one Dairy School at St. Hyacinthe has done, and is doing good work. Open during the winter months only its average attendance of students numbers about 250. These are the men that man the factories and act as Inspectors and Instructors.

We look to the Macdonald College,

under the able principalship of Dr. James Robertson, who is a thorough dairyman, and his efficient staff, to stimulate agriculture and particularly the dairy industry of our Province, so that the uplift will be marked and extend to every section of it.

The dairy industry should be encouraged from every standpoint, as it is recognized that Quebec is pre-eminently a dairy Province. Her fertile valleys and her rich uplands are capable of maintaining herds of dairy cattle far in excess of the numbers now kept. Twenty years ago a very mediocre lot of cows were to be seen in our pastures and stables. In this there has been a notable improvement and to-day there may be seen in many parts of our Province splendid herds of registered and high grade dairy cattle of the several breeds. Notwithstanding this fact, the scrub cow is disappearing altogether

too slowly and the scrub sire is too much in evidence in some sections. We trust the desire for better dairy stock will so permeate our agricultural communities that the day is not far distant when only the high class registered sire will be used.

Our advancement has been gradual, our farmers are conservative enough to make haste slowly, but once they advance there will be no retrogression. Particularly is this true of our French Canadian fellow farmers, who have been willing to follow, in a great measure, the system of the old country farmers. They are fast adopting modern methods in agriculture, being frugal and economical, and naturally tillers of the soil. The French Canadian farmers are bound to be great factors in furthering our dairy industry and in developing the agriculture of Quebec Province in days to come.

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## The Farm Stables.

“The farmer and his land cannot prosper until stock raising has become an indispensable feature of Agriculture.”

Jas. J. Hill.

The stables at Macdonald College have been built with a view to the accommodation of a large number of live stock. Partly this has been a matter of necessity, partly of policy—of necessity, because for supplies of milk and meat the College aims to be self-sustaining; of policy, because through intensive methods of farming, in keeping

large numbers of cattle upon land, we believe that we can offer the best illustration and example to the farmers of the Province. Being of fire-proof construction, the stables differ somewhat in general plan from such as would be most suitable and acceptable on an ordinary farm, but the equipment and details of arrangement in connection with stalls, passages, gutters, feed-rooms, etc., may be found worthy of observation.

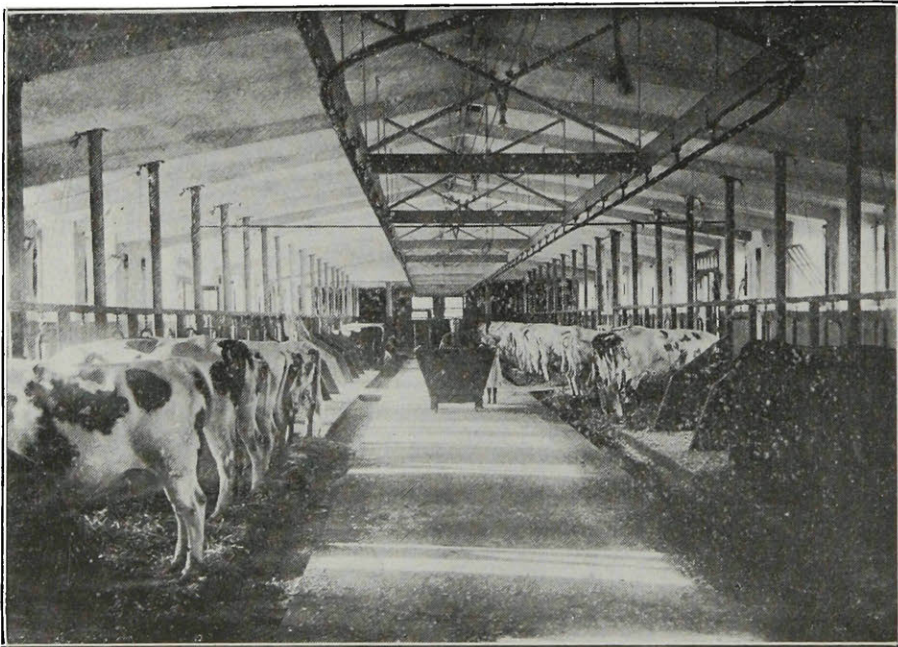
In the dairy stable the attempt has never been made to follow the expensive



practices advocated by some of the wealthy milk-producers of the United States, nor even to keep the herd in what may be termed show condition. Every reasonable care, however, is taken to insure the production of wholesome milk. The stables are cleaned out morning and afternoon and the cows are groomed daily. Care is taken that the atmosphere of the stables is about at its best as milking time approaches and the milkers are required to wear white duck suits when at work. They wipe the cows' udders with a damp

forms a breeding centre which we hope may be of service to Quebec through the progeny which is sent out year by year to the farms and agricultural societies of the Province.

In the beef stable convenience and economy of production are chief considerations. The cattle are purchased solely for slaughter and are run loose in boxes of four or five. It is our experience that gains are made most cheaply when the cattle are loose. Large amounts of root and ensilage are being fed this year while the meal ration is kept com-



AN INTERIOR VIEW OF ONE OF THE NEW CATTLE STABLES,  
MACDONALD COLLEGE

cloth and wash their own hands after milking each cow; thus practically no foreign material finds access to the milk, particularly as it is taken immediately to the dairy and there cooled. By reasonable care being exercised in this way a grade of milk is produced which we think is fit for practically any trade. Daily milk records give valuable information as to the returns from individual cows and furnish evidence that is of great assistance in maintaining the utility of the herd. The herd itself

paratively low. We have found the largest profit in the purchase of half-fat cattle. At the end of the beef stable are the loose boxes for the young breeding animals. A few Shorthorn grades are being raised from calfhood to marketable age with a view to ascertaining the cost of raising beef cattle in a dairy section.

By remodelling the temporary dairy stable, built after the fire, comfortable quarters have been made for sheep. Quebec is not a great sheep Province,



but we have faith in "these of the golden hoof" both for the revenue from them and for their assistance in promoting clean farming. A small flock has been established of imported stock, including representatives of the Leicester, Oxford and Shropshire breeds. During the winter the house is filled with grade sheep and lambs purchased for feeding purposes. Some of these are shortly to be sent to Montreal as a test of the market for high class mutton.

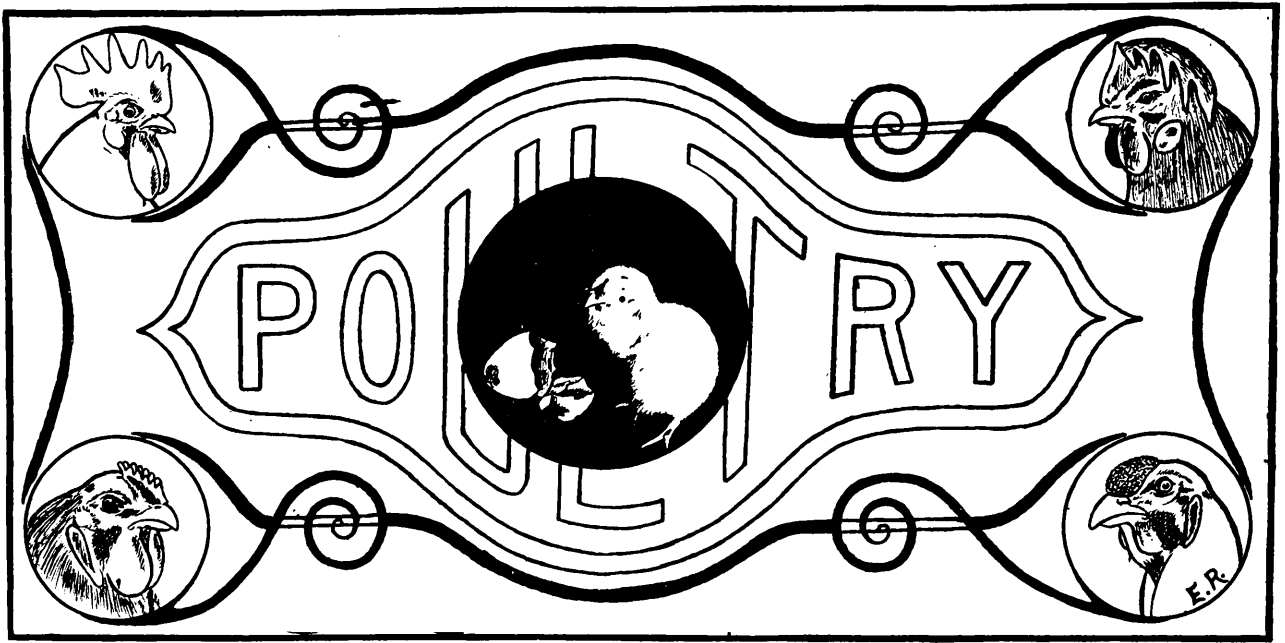
The piggery, though less frequently visited than the other buildings, represents by no means the least important undertaking of the Department. It is a question if any branch of our live stock has yielded us larger profits during the last year. Hogs are quick trans-

formers of raw material into flesh and at present prices the progeny from a single sow may easily represent a gross return of from \$150 to \$200 per year. The building takes the form of two wings which conveniently make provision for the market pigs and breeding animals. During the summer as much of the stock as possible is kept on the land, shelter being provided through the use of colony houses. By this means the health of the herd is more easily maintained, and the young pigs are also more successfully raised. There seems to be little likelihood of the demand for pork lessening materially in the near future, and in the meantime, the hog raising industry is receiving substantial encouragement.

H. S. ARKELL.



A TYPICAL SCENE IN THE MACDONALD COLLEGE CATTLE JUDGING ARENA.  
A Class in Animal Husbandry Judging Dairy Cattle.



## The Poultry Industry in Canada.



ACCORDING to the census of 1901 there were, speaking approximately, about seventeen million head of poultry on Canadian farms.

The value of stock and products was over sixteen millions of dollars, about ten and a half millions of which was for eggs alone. This year, if the same yearly increase has continued and prices have remained the same, there will be twenty two millions of dollars derived from the poultry industry. These figures will give people some idea of the magnitude of the industry in this country.

The number of people interested in the growing of poultry is more than in the growing of any other farm product. In 1901 about two and a half million people were interested directly in the production of poultry. This is chiefly due to the extent eggs are used as a food, which is probably equalled only by milk and flour.

The prospects for a farm department were never brighter than they are for poultry to-day. Most departments

of the farm have their off seasons, but the wet or dry, the cold or the hot year but rarely makes a difference to the poultry crop. In fact, few businesses can be operated in as wide a range of climate and varied conditions. No farm but is improved by keeping poultry, and no department can be carried on with so small an outlay.

The system of mixed farming usually carried on in this country is ideal for the rearing of poultry. On many farms sufficient grain to feed a flock of hens is wasted. Up-to-date methods of handling poultry make it possible for a flock of hens to add materially to the yearly income, without interfering with the time required for other crops.

When we compare our results with the results of other countries, we find we are not living up to our opportunities. If poultry were given the same encouragement that other departments of the farm receive, the revenue from poultry would be greatly increased, and the country made the richer by the better care and management of the too often despised hen.



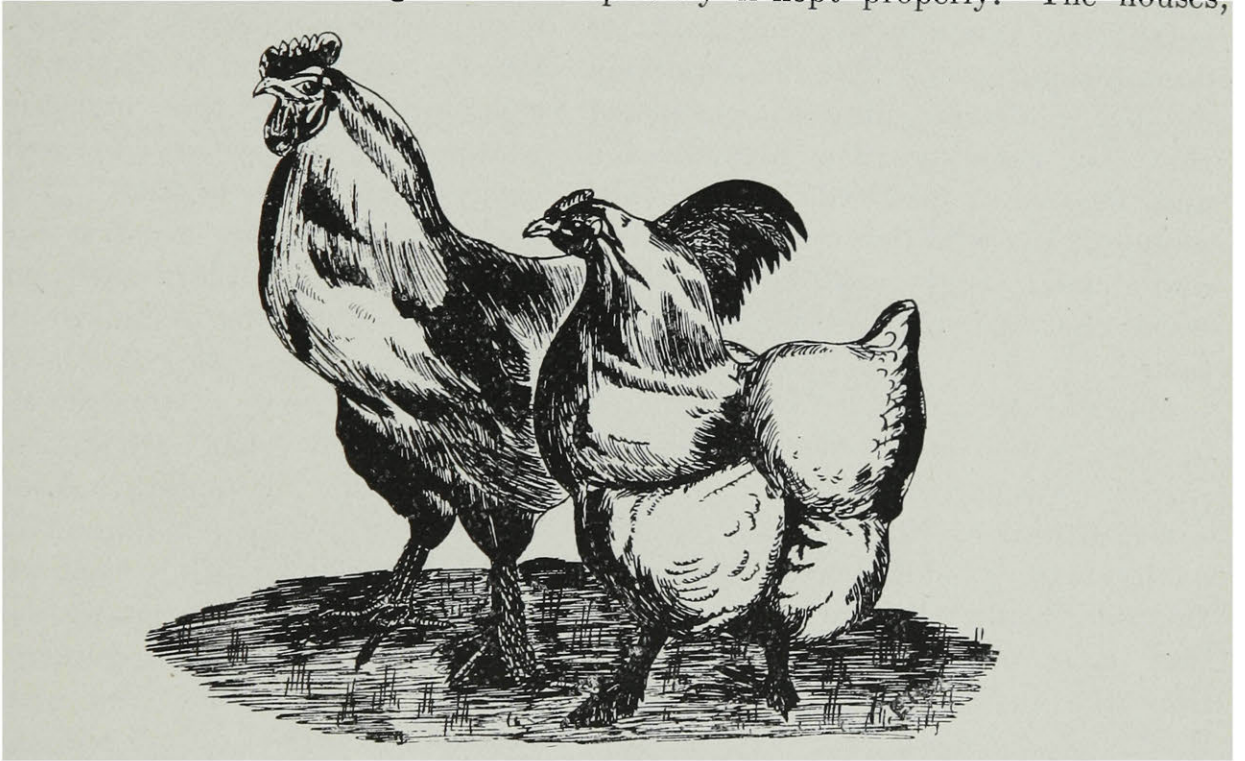
### THE WORK OF THE POULTRY DEPARTMENT AT MAC- DONALD COLLEGE.

This department has two main objects, viz., to increase the laying qualities of hens, and to show the farmers of the Province, that by proper care and management their poultry can be made to pay without materially increasing the cost.

At the last census taken in this country it was found that the average number

being done away with. The trapnests make it possible to keep an accurate record of each bird. The eggs used in hatching the next season are laid by these year old birds. The intention is not to breed a number of 200 egg hens, but to bring up the general average by culling out the drones.

Having improved the laying abilities of the hens, the next aim is to teach the farmer, by the work carried on in the department, that there is money in poultry if kept properly. The houses,



COCHINS AS INTRODUCED INTO ENGLAND, 1853.

of eggs laid by a hen in a year was 60. This was very low, and was made so principally by those keeping poultry who were content to take eggs when they got them, without troubling to enquire into the possibility of obtaining more. By selection and trapnesting the average has been raised here to twice the average found then. The method of selection is very simple. The best pullets are kept on probation for one year. At the end of that time, the best layers and those conforming to their breed type are kept, all the rest

hoppers, nests etc., used here are very inexpensive and may be easily made by any man able to use a hammer and saw. The houses are not heated, and results obtained go to show that the birds are more healthy than when the houses are artificially heated. When on range the birds are fed by the hopper system, which means less work and better returns. No hot feeds are given, which entails less labour and produces healthier birds.

Thus it will be seen that though the methods employed are simple they are

such that all keepers of poultry can follow them with beneficial results.

### ORIGIN OF OUR DOMESTIC POULTRY.

According to the evidence at present available, the hen dates back some centuries before Christ. Roosters were then domesticated and would crow. Darwin and other naturalists think that domestic poultry existed some centuries before that.

Originally poultry were not kept for domestic purposes. The domestication did not commence until the people of that day gave up their nomadic life and became a pastoral people. The young of the wild fowl were then taken and tamed, eggs secured and afterwards hatched by the birds already tamed.

Many of our domestic fowl originated in Asia, which is not strange, as Asia was also the native place of man.

Mr. Brown of England, an eminent poultryman, in his book "Races of Domestic Poultry" expresses the opinion that most of our poultry originated from the Indian Jungle Fowl—*Gallus Bankiva*.

At the commencement of the Christian Era it is probable the fowl had spread over Eastern and Western Asia. These two main channels, with India as a starting point, were possibly the commencement of the distribution of our present domesticated fowl, the Eastern stream commencing about 1400 B.C. and finding its way into China, Japan, and Central Asia, and on into Siberia, Russia, Germany, and Britain, the Western stream starting about 600 B.C. and going through Persia, Greece, Italy, Spain, France, Germany, Britain and America.

### SOME OF THE BEST BREEDS TO KEEP.

The most popular and useful breeds in Canada from a utility standpoint seem to be the Plymouth Rocks, the Wyandottes, the Rhode Island Reds and the Orpingtons. The first three breeds originated in America and are the best general purpose breeds for the farmer and poultryman to keep. In those breeds the laying qualities in combination with first class meat are found. The Orpingtons are a useful breed, originating in England. The chief qualities of this breed are its winter eggs, and white meat, which is always soft and tender. They also make exceptionally good setters and mothers. Of the other breeds generally kept the Leghorns seem to be the favourites. They are of the lighter breeds and come to us from the Mediterranean. Their chief recommendation lies in the laying quality. They also, when quite young, make good broilers. They lay a large white egg which is in great demand in many markets. Though originating in a country much warmer than Canada, they stand the extremes of this country's climate fairly well and lay moderately through the winter.

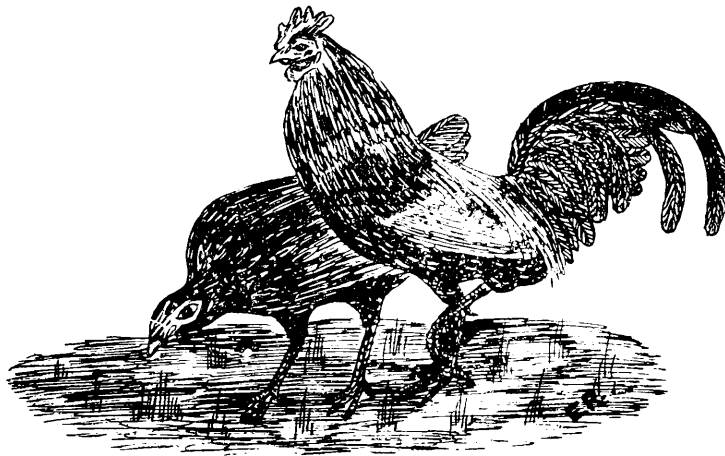
### THE FIRST WINTER'S WORK AT THE COLLEGE.

Two hundred and fifty hens were brought and housed about the end of October 1906, and although reports of the success with which they formed the foundation stock of this department have been sent far and wide it is worth repeating.

These birds were put in six colony houses, which stood out in the open

with no windbreaks. The houses were just one board thick except around the roost end which was double boarded. The hens were fed once a day grain which was thrown into the litter on the floor of the house. As the water froze solid in the houses a shovelful of snow was thrown in. The thermometer was as low as 15 and 18 degrees below zero, Fahr. in the houses. On the coldest nights a cotton curtain was lowered in front of the perches. There was no sickness, except in the case of two hens which dropped off the perch with apoplexy, being too fat. While all the hens did not lay during the winter,

breeds, all between four and five months old, were put into their laying quarters about the end of July. There were one hundred birds in all, twenty-five of each breed. By the 25th Aug. eggs were being laid in each of the four pens. Fifty seven birds were laying before the 1st. Novr., 19 Barred Rocks, 15 White Wyandottes, 14 Rhode Island Reds and 11 White Leghorns. The average number of eggs per bird for each squad of pullets laying, being: Barred Rocks 25, White Wyandottes 14, Rhode Island Reds 16, and White Leghorns 13. At 25c. per dozen each pullet averaged 30c. worth of eggs in



INDIAN JUNGLE FOWL AS INTRODUCED INTO EUROPE.

between Nov. 19 and Mar. 31, 10,122 eggs were obtained. In the coldest weather the hens laid about six dozen eggs per day and in the milder weather about 12 dozen per day. The feed consumed during that time cost \$117.00, and the balance sheet showed a very handsome profit for the winter.

#### EARLY PULLETS FOR FALL EGGS.

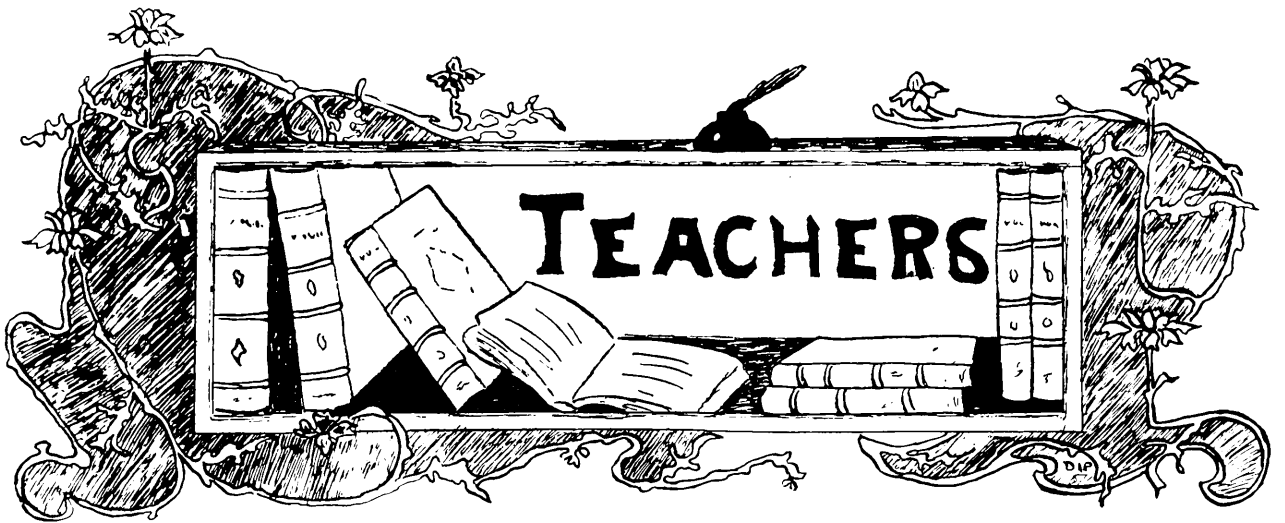
An experiment has recently been tried here with early hatched pullets.

Some very early pullets of the barred Plymouth Rock, White Wyandotte, Rhode Island Red and White Leghorn

three months. This would however vary in different localities, according to the market.

While this does not show a large profit over the cost of feed, the eggs at such a time would perhaps be acceptable to all poultrymen supplying the market. In the fall, on most plants we find that the falling off of the summer layers and starting up of the winter layers, causes a decided drop in the supply. Thus the foregoing will perhaps prove of value to those interested in keeping poultry and who wish to have a constant supply of eggs the year round.





## Forestry and Education.

By S. B. SINCLAIR, Ph. D., Dean of the School for Teachers, Macdonald College.



NEVERO fiddled while Rome burned, and Canadians have been cheerful while their forests have been consigned to the flames. Notwithstanding the fact that during the last few years the dangers of the situation have been brought before the people in almost daily warnings from the press and platform, each succeeding Summer has brought its serious accompaniment of sweeping forest fires, dense smoke, and blackened woods. With the exception of a few specialists in Forestry, it is evident that the vital and far-reaching importance of the danger has not yet been taken seriously by the citizens of Canada.

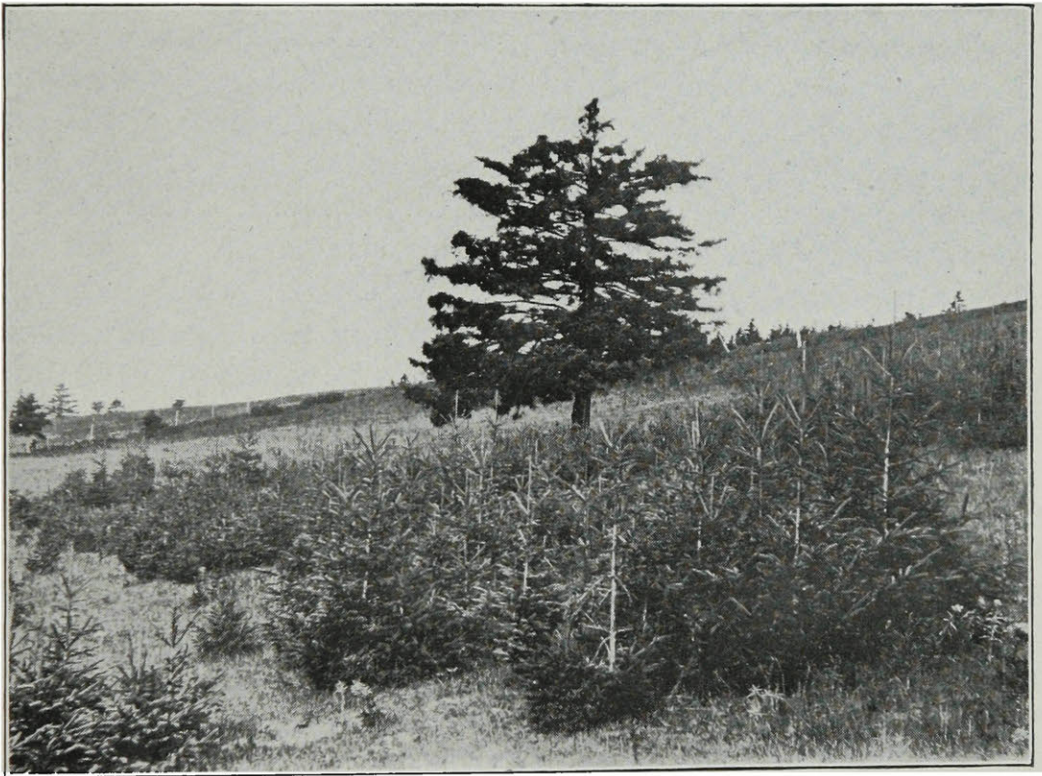
Last Summer, a passenger train in one of our eastern Provinces was running through a section of country where beautiful forests have been devastated by sweeping fires, and where, quite often, fires were still seen burning as the result of sparks from the Railway

engine. One of the passengers remarked to the conductor that it was unfortunate that so much destruction should have resulted from neglect to carry the right kind of spark arrestors in Railway engines, and to see that fires were extinguished at their inception, and referred to the well known fact that Forestry specialists are agreed that unless something is done, we shall be faced with a wood famine in less than a quarter of a century. The conductor replied with a patronizing smile, "This talk about what will happen with the wood is just a new fad that the newspapers have got hold of; there is any amount of good timber land in Canada, and anyhow by the time twenty-five years have rolled by they will have discovered ways of getting along without wood."

The Toronto lady who, some years ago, threw her false teeth into the fire on the supposition that if she had faith enough to do that, a third set of

natural teeth would appear in her mouth, has since learned that it would have been better to have had less faith in the destruction of property and more in the application of the laws of common sense. If we look back over the history of the past twenty-five years, and note the success which has attended the efforts to discover new forms of fuel and new kinds of material to render the use of wood unnecessary,

are drying up, streams overflow their banks in the Spring and present dry beds in the Summer. In the United States in a certain locality, which at one time was beautifully wooded with magnificent forests, the destruction has been permitted until to-day, the winds sweep over the country with no more retardation than on the surface of the ocean, and when the Agriculturist builds his house, it has become



NATURE'S METHOD OF BUILDING A FOREST. THE YOUNG PINES AROUND THE MOTHER TREE ARE FROM TWO TO SEVEN YEARS OLD.

we shall find that the facts are not reassuring, and that the optimist prophecy of the Railway Conductor was founded on nothing but pure imagination which sought for an excuse for acts which cannot be defended.

The necessities for vigorous steps in the care and preservation of our Forests are in evidence everywhere. The cost of wood and lumber is increasing with leaps and bounds. Water powers are becoming useless, springs

a fixed custom to construct near it a "dug-out" into which he and his family can flee for safety when they see the approach of the frequent and devastating cyclone. This "dug-out" bears the very suggestive name of "fraid hole." Fortunately, even at the present pace, it will be a few years before Canadians will reach the "fraid hole" stage.

Without enlarging further upon the dangers of the situation, which are

so obvious to any one who investigates, let us ask ourselves the question, can the School do anything to bring about a better condition of affairs? In the first place school children can be taught the fundamental principle of social ethics; that without co-operation and self-sacrifice society cannot endure. A few years ago a case came under the observation of the writer where a small fire from a railway engine smouldered for weeks, and eventually was kindled by a gale into a conflagration which destroyed a square mile of forest timber. Every day during the three weeks, a boy fifteen years of age passed within a few feet of the smouldering fire as he went to bring the cows home. The fire could have been extinguished in fifteen minutes. The boy had not been trained to put out fires, and the idea that it was his duty to put this one out probably never occurred to him. Last Summer on a canoe portage connecting two Muskoka lakes—a path famous for its beauty and for the value of the magnificent timber on either side, on three separate occasions camp fires were left burning within a few feet of leaves and débris, which with a high wind would certainly have caught fire, and the result would have been incalculable loss. It is quite probable that the young men who left these camp fires burning had never

received any instructions in School regarding the necessity for the preservation of Forests, or the menace to life and property caused by an unextinguished fire in such a locality.

In the next place children should be taught something about tree culture and should be taught to plant trees. This is one of the best forms of Nature Study, and one which thus far has received but very little attention. It is often urged that as the time element counts for so much in tree growth, taking in many cases a hundred years for a Forest to be ready for the axe, the work of Forestry must therefore be left almost entirely to the Government. There is some truth in this statement, and yet the writer of this article, when a boy, assisted in planting some walnut trees, one of which is now worth \$100.00.

Again, there are certain elementary principles of Forestry which might well receive passing notice in the schools. For example, the accompanying cut, which represents a few years of unassisted natural growth of young trees from the parent tree, affords at a glance a fine illustration of the wisdom, when taking timber from land which is unfit for Agricultural purposes, of leaving a sufficient number of Mother trees to insure an adequate growth of good timber without the trouble and cost of replanting.



## A Freshman's View of the Initiation.



**A**FTER much ado and long farewells we arrived at Macdonald College. In two weeks' sojourn here, we Freshmen had come to the conclusion that the College must surely have been in a queer state of disorder without us in previous years; and our heads were swollen to unheard of proportions. But! Alas! not long were we to remain in a "Fool's Paradise." Soon, too soon, came the rude awakening—and great was the fall to our pride.

One morning much excitement was occasioned by the posting of a notice to the effect that all First Year students were to meet in the Assembly Hall at 7 p.m. **Promptly** at seven we were upon the scene (as is always the case with Freshmen) and Dr. Robertson gave us some of that good sound advice which we all appreciated, and closed

by informing us that some one else wished to have a few moments with us. Then, greatly to our consternation, the lights were extinguished (except those on the platform).

Suddenly from the rear of the room came the weird sound as of someone stealthily opening a door, and down the aisle came a stately procession headed by two majestic queens robed in black—the first carrying a scroll, the other a quill pen. Following them were four other queens bearing lances and Macdonald pennants. The others in this grand procession were robed in white and on each face was the calm serious expression of a Macdonald teacher. What a weird sight! Fear was upon us all, but having true British blood in our veins we stood game.

Slowly and sedately they walked down the aisle and mounted the platform to the strains of one of the most



doleful tunes our ears had ever heard; it made our hair fairly stand on our heads and sent the cold shivers down our backs.

But hark! a voice—which seemed to come from the very soles of the first queen's boots—saying "Ladies, you are ignorant, very ignorant, and your indifference to confess your ignorance shows how ignorant you are"—and she continued in that strain until I really believed I was. How ridiculous it seems now! Imagine! We ignorant! We were also given some advice such as this: The fire extinguishers were not to be taken for soda syphons—the dusters for face cloths—nor were we to attempt to blow out the lights. A charter was then read to us which we were to sign, so as to show our homage to the College and deference to the seniors. They gently informed us that they were to guide us up the ladder, that we might gain heights which they had already reached.

Then to our eyes was revealed a table upon which was a basin of water and into this two of our persecutors poured huge bags of salt, in front of our very eyes. Then we were grabbed

most unceremoniously by our two arms and taken to the basin, in which our hands were vigorously washed that we might be clean of all freshness. A towel there was, but so sparsely did they dry our hands that the salt sank deep into the skin of our dainty hands. Oh! the deep heartlessness of it all!

Thence we were led to the platform to sign the Charter and to read the great motto: "Mastery for Service." One of the girls most innocently read the thermometer and was heartily shaken for her pains. All the willing captives were led through a door marked "Paradise Regained," and the unwilling ones through "Paradise Lost." Here we met another tormentor who handed us a picture of "The College," and also a bag of salt for a remedy for swelled headedness. All we Freshmen filed off downstairs only to find ourselves locked in. Our humiliation was complete! Here we awaited the pleasure of our seniors, who came at length and marched with us across the campus to our building where refreshments awaited us, to which we did full justice after our strenuous and nerve-racking experience.

M. R.

## School Gardening.

• By JOHN BRITAIN, D. Sc., Professor of Nature Study at Macdonald College.



HE family is, and ever must remain, the unit of human society. Without family life there can be no homes.

The character and influence of the individual and of the nation depend more than on anything else, on the quality and tenor of the family life.

The great aim of the school is to conserve and improve the home life of the

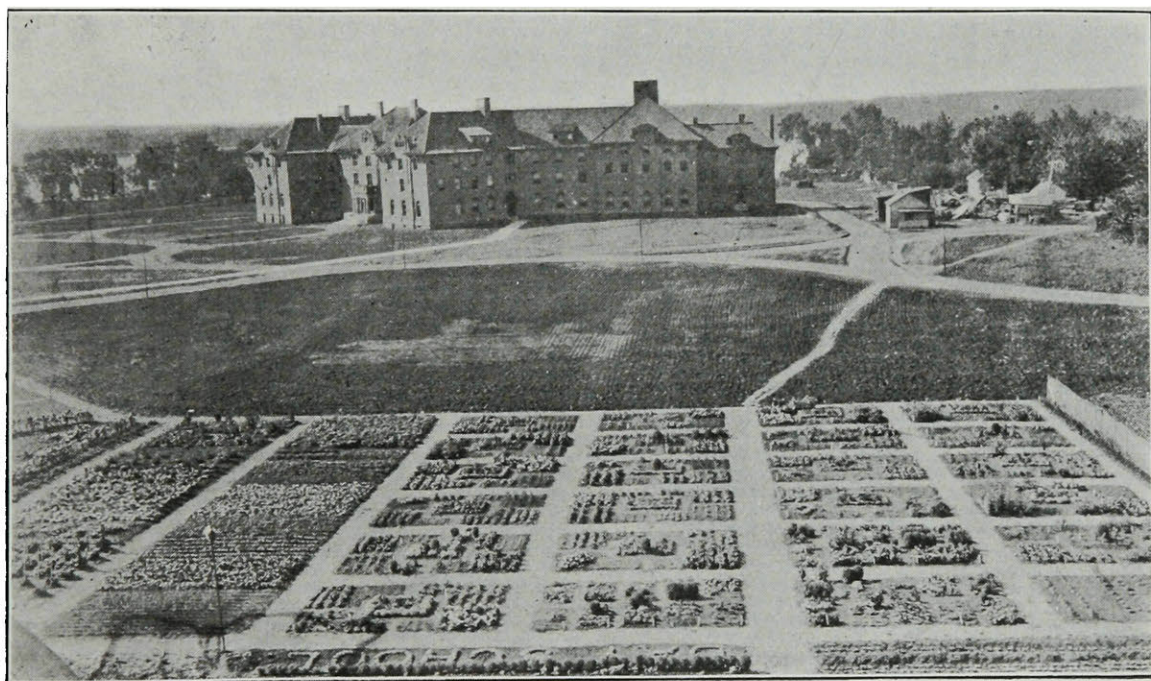
people. The garden is therefore as essential to the school as to the home. It affords the most practical means of training children in habits of industry, thrift, foresight, respect for property, and in social co-operation. The principles of plant culture may be learned in a garden plot as well as on a farm, at least, by children.

The school garden might be quite

as useful an adjunct to a city school as to a country school. The downward way from the country fields to the city slums is crowded with men, women and children. The working people of the city and their children are, except on rare and brief occasions, cut off from access to the country. A few flowering plants in the window sometimes remind the passer-by that a mother retains a spark of love for the green fields in which she, in her youth, or her parents once played. Every workman, as the hours of hired labour are shortened, might find healthful recreation in a small garden plot, beside his cottage,

Much may be done in schools without a garden, by means of window-boxes and flower pots. In them not only flowering plants, but common garden vegetables may be grown. To tend sympathetically a few plants, supply their needs from day to day, and learn to look upon plants as living things, each with a wonderful life history, could not fail to leave a lasting impression upon the minds of the children.

In the winter, as well in city as in country schools, garden products—grains, roots and fruits—might be studied, and simple mechanical analyses made, bringing out their relation to life



GARDENS OF PRACTICE SCHOOL AT MACDONALD COLLEGE.

or provided at some distance by the city or town, and at the same time produce a wholesome addition to the food supply of the family. Leguminous plants would yield proteids to lessen the demand for meats, and other vegetables would furnish starchy foods and sugars. But unless the husband and father had acquired in youth some interest in plant life and some knowledge of the cultivation of plants, there is little likelihood that he would employ any part of his time in working in a garden. He would rather spend his spare hours in diversions more accordant with his tastes.

of the plants and their value as human food. In the lower grades, bulbs may be grown in earth or gravel, plants may be started from cuttings, and germination experiments carried out. Simple experiments on soils, air and water can be devised to illustrate the part they play in the life of plants.

When the people come to see that the true function of the school is to train the children for home life—for a sweeter, saner, simpler home life than that which now prevails—then will the experimental study of plant life find a welcome place in all our schools.



## A Day in Town.



It has been customary for the teachers in training at Macdonald College to go to Montreal several times during the Session in order to secure more practice work in teaching. We, as a class, were looking forward to our first trip to the city for that purpose, and we were at last rewarded by reading the following notice: "The Model Class of the School for Teachers will spend to-morrow observing and teaching in the various schools in Mont-

order to catch the seven fifty-six train.

The only carriage afforded was one for the lunch boxes which had the honor of conveying them to the station.

At last the warning whistle was heard and in a moment we all climbed on to the special car with that air of dignity which only teachers can possess. The train came to a standstill at every station between Ste. Anne's and Montreal, but lesson plans and teaching were forgotten when we saw the distressed and embarrassed faces of the



THE TEACHERS' CITY *HOMME GALANT*

real." Were we glad? If you could have heard us wishing for that to-morrow to come you would have known how we felt.

Even the longest night comes to an end. Terrible noises were heard in the 'wee sma' hours' due to the impatience of the alarm clocks. Our enthusiasm must have been contagious. Thanks to the splendid work of those same alarm clocks, we all arose in time to take a hasty breakfast at seven fifteen with an even hastier walk to the station in

men who chanced to find themselves in that forbidden car. They looked as if they had one aim in view—to get out as quickly as possible. (Please do not think it was an Adamless Eden, for there were two of the stronger sex to protect us.)

When all our college and class songs had been sung, and Dr. Sinclair had counted us we discovered that our destination had been reached.

There being too many of us to visit the same school at the same time, we

had been arranged in groups, each group being assigned a different school. One of the principal features of the day's work was collecting the bewildered members of the several groups.

The morning was spent in teaching and observing. Some of us were fortunate enough to be in the same classrooms with former students of MacDonald College. We also were fortunate enough to make new friends, as well as to renew old acquaintances, among those who had been kind enough to help us make our day in town a success.

Not until we stood before a class was there any change in our enthusiasm. Then we realized that we had nerves, but the fact was thrust from us when we remembered that we had to do credit to our College.

At noon we left the various schools to assemble at the Belmont School for lunch. Long benches, long tables and a long room reminded us all of our own school days. The morning's hard work made our lunch doubly enjoyable and we did it full justice.

The afternoon until four o'clock was spent in much the same manner as the morning. Then we all met at the Art Gallery. Here we enjoyed the privilege of seeing one of the best Art exhibitions which have ever been given in Montreal.

As the train left at five fifteen our

visit to the Art Gallery was of short duration.

The journey home disclosed many tales which were amusing and, of course, highly interesting. Every one was in the best of spirits and seemed satisfied that teaching, as a profession, is very enjoyable.

One girl drew forth very proudly from the depths of her purse a very sticky piece of candy which was given her by one of her pupils. Another produced a highly ornamented post card, while a third stated that one little boy was quite offended because she would not share his lunch.

We found the children very interesting, Although very young they possessed splendid reasoning power. One very red faced boy, when asked to state what he knew about Greenland seemed quite pleased to be able to say without hesitation, "The people of Greenland are green."

Much to our distress we found that five of our number were missing, but as we felt confident that kind Mr. Policeman would guide the missing ones to Bonaventure Station in case they were lost, we did not worry.

At last we reached home feeling tired and hungry but much more interested in our life work.

E. S.

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## Causeries du lundi.



FIN d'accoutumer les étudiants au son du français, Mme Cornu donne chaque lundi, une courte conférence sur des sujets actuels, scientifiques ou littéraires. Ces cours sont aussi suivis par les membres du corps enseignant et les personnes du dehors qui aiment le français.

Il est assez difficile d'intéresser un auditoire aussi varié que celui qui assiste aux causeries, mais Mme Cornu sait se mettre à la portée de tous et s'attirer leur sympathie.

La première causerie traitait de l'aviation. Chacun connaît l'aventure du malheureux Dédale, qui, enfermé en Crète dans une prison, se fabriqua, pour lui et son fils, des ailes de plume et de cire, et s'envola. Mais hélas! l'adolescent s'étant imprudemment trop approché du soleil, la chaleur fit fondre la cire de ses ailes, et le pauvre Icare,—première victime de l'aviation!—tomba à la mer et se noya.

Depuis ces temps lointains, qui sait combien ont caressé le projet de fendre les airs comme l'oiseau; et de voguer là-haut, bien au-dessus des villes et des montagnes?

Et maintenant, voici que les Blériots, les Wrights et les Zeppelins, en nous donnant l'aéroplane, nous prouvent que ce rêve peut se réaliser.

La fable mythologique d'Icare suggérait les contes de fées de Perreault et les histoires touchantes et pathétiques du Danois Andersen.

Parmi les modernes les contes charmants de Daudet vinrent s'ajouter au

programme. Qui de nous peut jamais oublier "La Chèvre de Monsieur Séguin"? N'avons-nous pas encore sous les yeux, la pauvre Blanquette, obstinée à lutter jusqu'au matin, contre le loup féroce dont elle se sentait la proie?

Du conte à la fable, il n'y a qu'un pas. Quatre causeries ont été consacrées à Lafontaine. Comme son style fin et original n'est pas facile à saisir, le plan de ces causeries était de présenter les fables les plus connues en prose d'abord, avec explications au fur et à mesure, puis de les réciter. C'était "Le Chêne et le Roseau", "Perrette et son Pot au Lait," etc. Celle du "Rat retiré du Monde" sembla plaire à un grand nombre des auditeurs qui cherchèrent en vain dans le dictionnaire géographique la ville de Ratapolis. "Le Cocher et la Mouche" nous rappela le temps où les tramways et les automobiles n'étaient encore qu'à l'état de rêve, et où les lourdes diligences étaient les seuls véhicules connus. Cette vaniteuse de mouche reste à jamais le type des gens qui s'attribuent l'honneur d'un travail auquel ils n'ont pris aucune part.

Et ainsi de suite, chaque fable a sa morale, sa leçon, où perce l'esprit observateur du grand fabuliste. Or ce fabuliste avait un ami dont le nom est aussi illustre que celui de Lafontaine, nous voulons parler de Molière. Le grand auteur défrayera les causeries à venir, et plusieurs étudiants se préparent à représenter sous peu quelques scènes d'une de ses meilleures pièces.

L. E. T.







## In the Gymnasium.



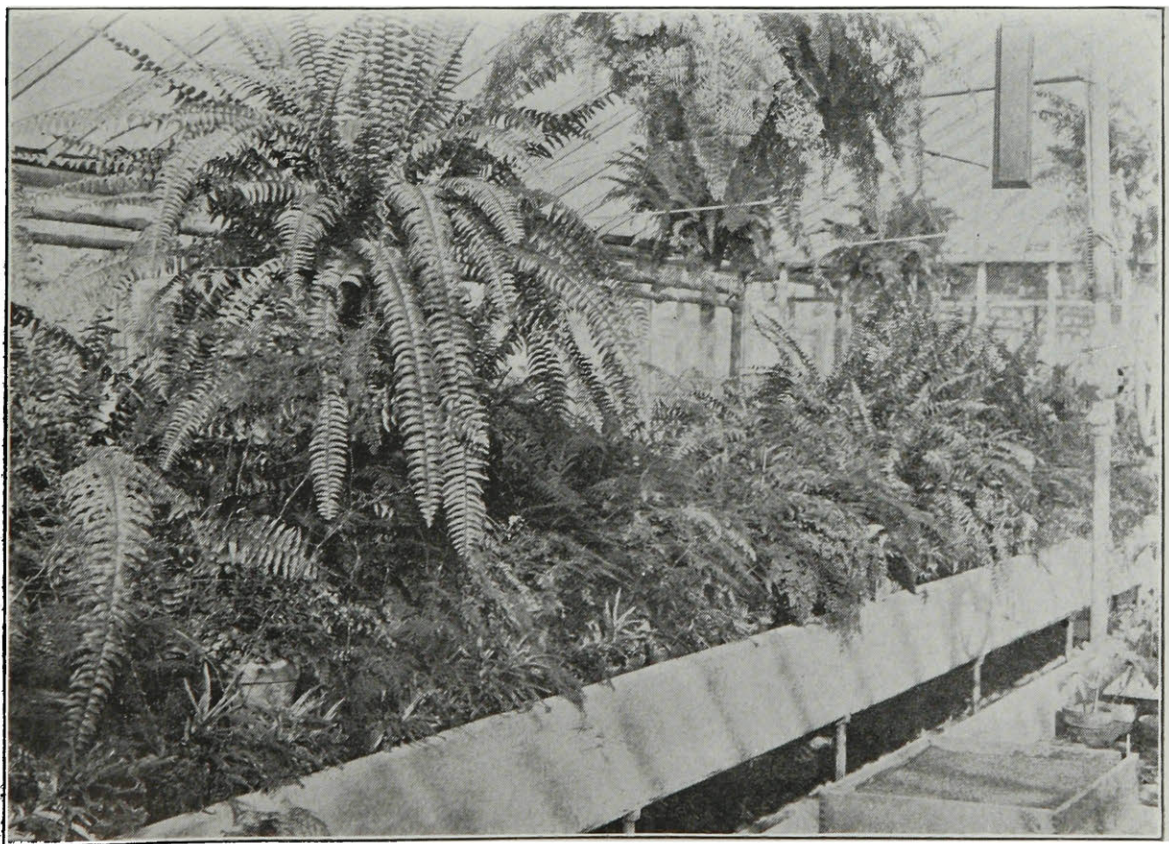
N this twentieth century, we realize that to attain perfect development we must combine the education of mind and body. In the gymnasium we endeavour to follow out this old Greek idea, by assembling for class instruction in gymnastics two afternoons each week. We have mastered the free hand, dumb-bells, and club exercises, and now are being initiated into the joys and sorrows of æsthetic gymnastics, as well as the sterner requirements of apparatus work. And who will ever forget the glorious swims in our tank after class work?

The many different forms of recrea-

tive work, including basket-ball, baseball, badminton, and captain ball, create much pleasure and interest and also develop that wonderful feeling between us known as "College Spirit." Four medals are offered each year as rewards of merit, and are open for competition to all women students.

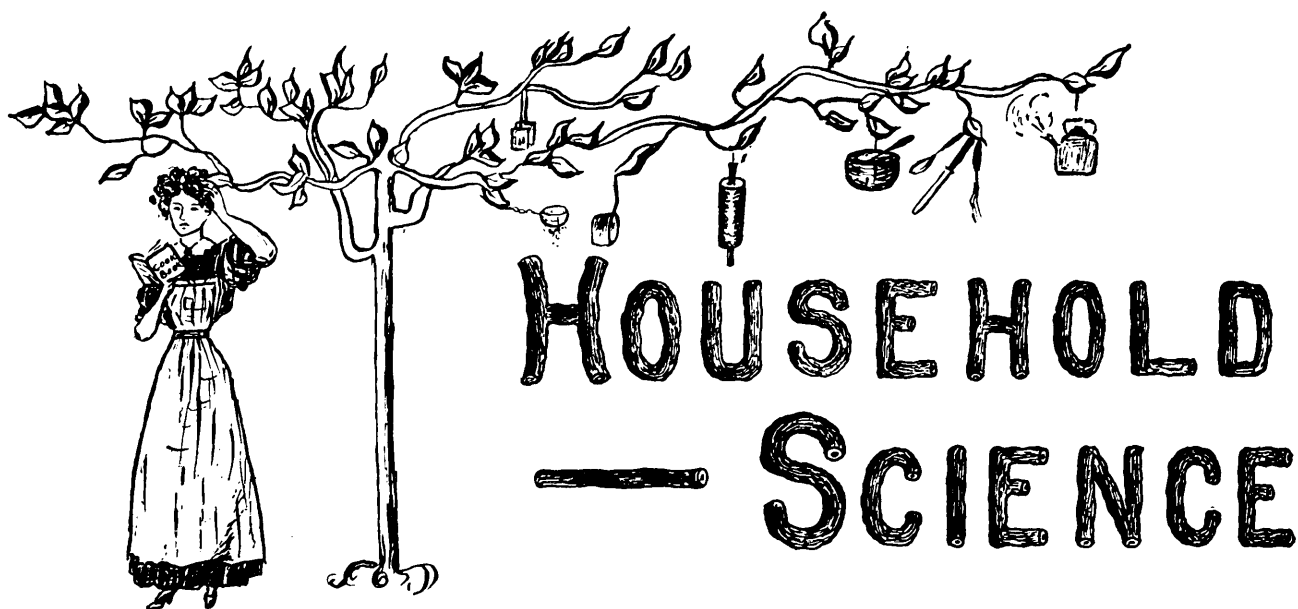
"Mastery for Service" is our motto and all are striving to study and control our bodies so that in our turn we may show others the way to live a more wholesome and useful life.

"Disease is the result of ignorance," and when we fully realize how to take care of the human body, sickness will have become a thing of the past. H.M



A SNAPSHOT IN ONE OF THE COLLEGE GREENHOUSES.





## A Visit to the Meetings of the American Home Economics Association, December 31st, 1909.

By A. B. JUNIPER,  
Dean of the School of Household Science, Macdonald College.

**T**HE American Home Economics Association was formed a year ago at Washington, D.C. It is an outgrowth of the Lake Placid Conference, a conference which has been held each year since September 1899, to discuss and investigate "Home Science or Household Economics." The larger association is due to the growth of the Home Economics movement. The annual meetings this year were held in Boston. The writer had the pleasure of attending, and the following somewhat disjointed remarks are made with apologies to the people quoted, for any inaccuracies which may occur.

Since several of the meetings were held at Simmons' College, a brief description of this may not be out of place. Simmons is a women's college where girls of over eighteen receive professional training in Household Science, Library Science, Pure Science,

Hospital Science, Secretarial Studies and Social Work. There are 570 students. The tuition fees are \$100.00 each year, with extra fees ranging from \$1 to \$5 for each subject, to cover cost of materials and also caution money. Board and residence cost from \$200 to \$300 each year, according to the accommodation. The course covers four years. The rooms though fine and well equipped leave one feeling that it is difficult to beat Macdonald College. The space is far more limited, the Laundry appeared to be over in the residence, for there was none in the main building, and the gas stoves in the kitchens had no ventilating pipes.

The meetings on Friday morning were held in a fine lecture room. The subject was "Science in Relation to Home Economics." Professor J. F. Norris spoke on chemistry. He said there were two main divisions of Household Science, a scientific and a

non-scientific, and that the mental development of the student was of paramount importance. At Simmons, students take eight hours' chemistry a week during the first three years of the Home Economics training, and some few students who want to teach chemistry as well as Household Science take a fourth year chemistry course.

Professor C. L. Norton spoke on the relation Physics bears to House Economics. Speaking of heat, he said, a kitchen range was outrageously waste-

of the amount of heat lost. He compared the lack of information on this with the exact knowledge of an engineer on heating. Clothing, too, offers a wide field for investigation; it has been a subject sadly neglected. It was pointed out that a fortune awaits any one who can invent a cotton fabric to rival wool, and it was stated that there is no positive information as regards the heat transmission of clothing fabrics. Physics as a guard against the spread and prevention of fires in



IN ONE OF THE CLASS-ROOMS AT THE COLLEGE.  
A Household Science Class at work, sewing.

ful, one tenth of one per cent. only of the heat produced goes to the right purpose. A cast iron stove he described as monstrous, and suggested that probably something in the nature of a fireless cooker worked by an electrical device would in the near future supersede the present cook stove. The matter of building materials to withstand temperatures both from inside and outside, needs much study, as does also the effect of moisture on the same material, as well as the matter

house construction should interest all students of Home Economics. The speaker approved of small classes for Physics with laboratory periods.

A paper by Professor Stiles on Physiology followed. He advocated Physiology being preceded by courses in Chemistry, Physics and General Biology. Where this is impossible the broad outlines of cell life must first be given, as a general biological introduction.

Dr. Gies, of Columbia College, read

an article on Bio-Chemistry outlining a course embracing cellular chemistry, the nutrition of cells to precede the nutrition of organs, the study of lymph and the ways in which blood and lymph are produced.

A lunch at the Westminster Hotel was a representative gathering of people interested in Household Science;— to mention a few names only: Mrs. Richards, Mrs. Abels, Miss Arnold, Dr. Langworth of the U. S. Department and Dr. Andrews of Columbia were present.

The meetings held on Friday afternoon were divided into three sections, Hospital Dietetics, Domestic Art presided over by Miss M. Bevier, and Domestic Science over which Mrs. Richards presided. The writer by dividing the time between two gained less from these papers.

On Friday evening at the Massachusetts Institute of Technology three interesting topics were discussed.

Dr. H. C. Sherman, of Columbia, dealt with foods as a factor in dietetics. The experiments of the last few years, the speaker said, had brought to an exact science the amount and selection of foods necessary. Men of different races had been used in the experiments and its differences caused very little difference in the results, it was found. Medical dietetics have been too qualitative. The amount of food required by people was the same as for a person in sound health in the same restful condition: if the supply of food is insufficient the patient has to live on his own tissues. Dr. Sherman further explained that proteins differ very largely in nutritive value: that we take more salt than is necessary. Iron as a remedy he advised should be given intermittently, and preferably in foods.

Diet for children and invalids should be rich in green vegetables, eggs, and fruits, because of the iron contained in them; calcium and phosphates are best supplied by milk, eggs and cereals. An interesting point was made in connection with a diet containing no salts, but which does contain sulphur, which the lecturer said leads to serious symptoms of acid poisoning, the same being true of any diet which contains a preponderance of acids over bases. It was, therefore, he argued, necessary to have a balanced diet as to bases and acids. This point was disputed by a later speaker.

Professor Lafayette B. Mendel, of Yale, followed with a paper on Digestion. The function of digestion, he said, was to break down foods into the ultimate elements, then to pick out those required by the blood. It was pointed out how great is the control of the nervous system in the matter of digestion. Certain chemical regulators arising from our food stuffs give us partial control of the alimentary canal, such, for instance, as the meat extracts, and dextrine, which stimulate the digestive secretions of the gastric glands.

Dr. Otto Folin, of Harvard University, speaking on metabolism, divided the subject into food metabolism and tissue metabolism. The conversion of carbohydrates into fats and protein into carbohydrates were, he said, known facts now, and he added that in all probability there are as many kinds of glycogen as there are kinds of starch, and a number of different kinds of protein.

On Saturday the subject of "Newer Professional Fields" was taken up and papers by Miss Stevenson on "Lunch Room Management," and by Miss Hemenway on "Market Inspections"

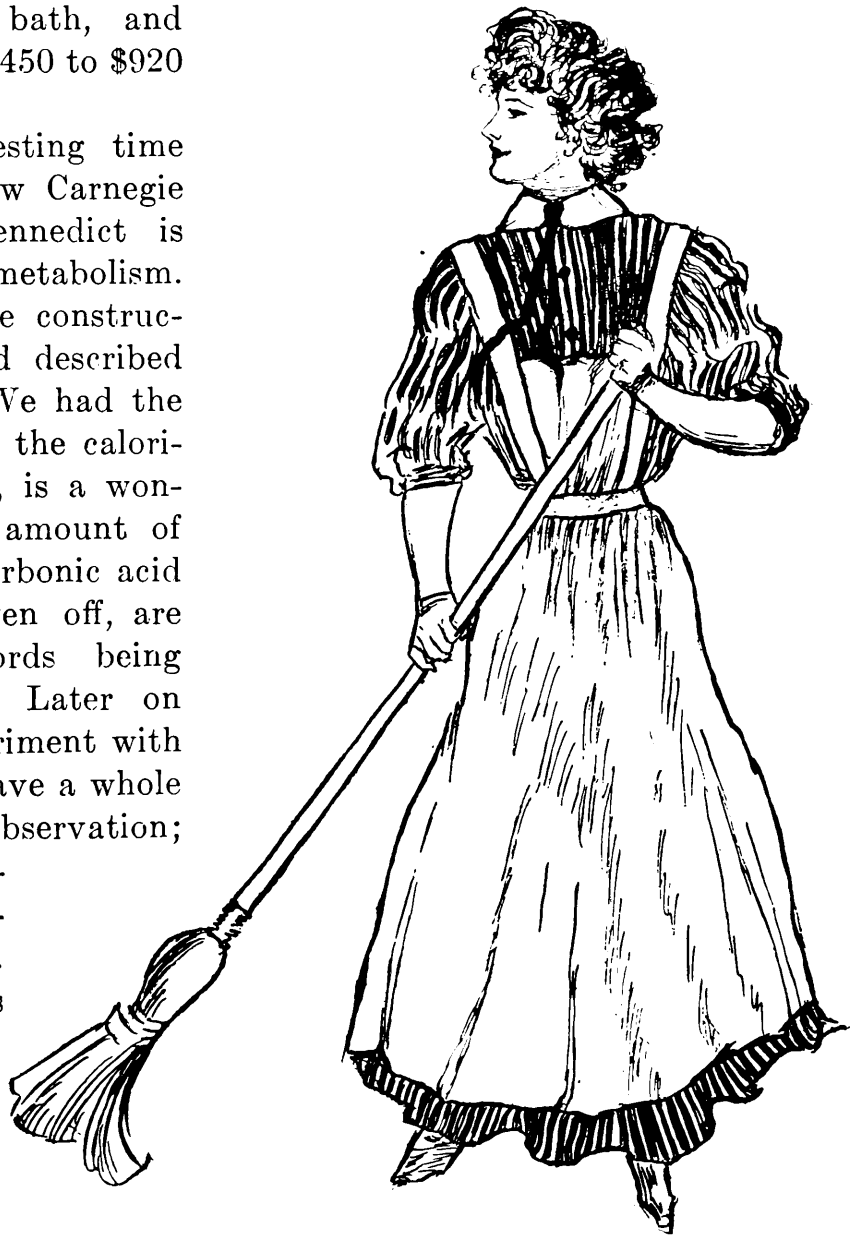


as new lines of work for women proved very interesting. A paper by Mrs. Saunders on "Apartment House Planning" was extremely suggestive. Two thirds of the people in New York live in apartments, and the necessity for making these more sanitary, noise-proof, fireproof, and homelike, and the necessity for more cupboard accommodation and at least a roof garden were shown to be matters which intimately concern all women. At Copenhagen, Denmark, one enterprising man has put up a series of apartments meeting the foregoing requirements, and such a flat, to accommodate five people with steam heat, bath, and electricity can be had from \$450 to \$920 per year.

Perhaps the most interesting time of all was spent in the new Carnegie Laboratory where Dr. Bennedict is carrying on experiments in metabolism. He personally explained the construction of the calorimeter and described what he is trying to do. We had the pleasure of seeing a man in the calorimeter. This, briefly stated, is a wonderful machine where the amount of oxygen taken in, and the carbonic acid gas and other matters given off, are accurately measured, records being taken every few seconds. Later on Dr. Bennedict hopes to experiment with men at work, and even to have a whole family of persons under observation; there is already one to accommodate sick persons reclining, and tests are made. Mr. Fletcher, of renown, is one of the best subjects in the calorimeter, we were told.

On Friday we were entertained to tea by Mrs. Stanard at the Garland

School of Home Making. This is situated in Chestnut Street in an ordinary large dwelling house, adapted. The course is somewhat like our own but less comprehensive, and the building, of course, does not begin to compare with Macdonald College. But it is homelike, which is possible when only twelve resident students are received. The fees for board and tuition are \$1000 per annum; non-residents pay \$200 in tuition fees. How much we get for very little at Macdonald College!



THE HOUSEHOLD SCIENCE GIRL.

## Extension Work for Women.

By MRS. J. MULDREW.

House-mother in Women's Residence, Macdonald College.



It is not a new thing for the Province of Quebec to have the educative work of the colleges taken to the people in the form of work such as is done by the Farmers' Institutes, or by societies like the Pomological, but so far no work has been organized, and nothing is being done to carry similar aid to the farmers' wives. It may be that there is not the same need, or that improvement on the farm allows of similar improvements in the home, but there is much that could be done, especially in the

been paid to crops, care and feeding of stock, good roads, and what not that concerns a farmer. Take, for instance, an agricultural journal, and you will find pages and pages devoted to the proper food for chickens, or the proper housing. . . . or it may be food for calves, yearlings, etc., or the best mixture to sow for pasture for milch cows, and you will find nothing, or at most a quarter column on how to feed babies, or children a year old, or how to dress them, bathe them, care for their teeth, or any thing that is vital to the health



STE. ANNE DE BELLEVUE, AS SEEN FROM THE OTTAWA RIVER.

sparsely settled districts, to relieve the monotony and remove the drudgery of the life of the women on the farm. For many years we have heard the cry of the need of keeping the boys on the farms, but behind all this exodus there is oftentimes the unattractive home, the tired mother, the hard worked sisters, and the lack of social life.

The centre of social life must be the home, and the home makers are the women. All things then that pertain to the home life of the women are of vital importance to the wellbeing of the community. Much attention has

of the child. Endless care on the feeding of stock, which a man sits up at night to study, much to his credit, and not one page on how to feed and clothe the children.

It is strange and somewhat startling that the responsibilities of motherhood and fatherhood are taken so lightly. If the baby is sick, ask the woman across the way to come in and see it. [If its food disagrees ask grandmother what she did for her children. It is not so in other things; if a woman is fond of embroidery, the chances are that she subscribes to the "Modern Priscilla"

or some other journal devoted to fancy work, but if she is a mother she takes any advice that offers when the need arises.

This is all wrong, as we could point out if we had the opportunity to reach our women. We should be reaching them. Extension work from our colleges should do this, and a glance at the work done in other places will show what has been done, and what can be done again.

Extension work in connection with Farmer's Institutes and experimental farms has been carried on for years in the United States and Canada. About ten or eleven years ago attempts were made to awaken the interest of the women of Ontario by holding Women's Institutes, working in connection with the Farmers' Institutes with a union meeting once a year. In 1899 there had been made a beginning, in about three districts and the interest was acute. The Agricultural College at Guelph gave what help they could towards sending women to organize and to speak to the Institutes, and the government in Toronto gave a grant of ten dollars to each per year, and this sum had to be supplemented by the local councils.

In the beginning the scope was limited, and men poked fun at them for meeting to discuss cookery only. This was taken good naturedly for the most part, and steady progress made, until now they plan to cover in one year almost every subject that can come up in any way connected with home affairs. A glance at the list of meetings and speakers for 1909 would convince any one of the variety of work, and of the richness of material.

There are at present 34 lecturers including women in many walks of life, and with a great diversity of gifts.

The subjects treated by one woman alone may be cited as an illustration.—Food Values—illustrated by a chart, Home Products as food, Planning and serving of meals, Labor saving devices, Comfort in the sick room, Harmony in furnishings, Demonstrations in cooking. Another very different set of lectures may be given, . . . Home Hygiene, Home Nursing, Health of women and girls, Education of girls, Accidents and Emergencies, Nervous Prostration, Disease germs, Tuberculosis, The Day's Work.

The demonstrations include many cooking lessons, some on bandaging, and one recently was given on plucking and shaping a fowl for market, trussing for the table, boning and carving.

From these samples a grasp can be had of the scope and variety of work taken up, and some idea also of the extent.

In the few years of its work amazing progress has been made. Men are convinced that the right chord has been struck, and this line of work has found the correct response in the home life of this country. At present the membership in Ontario is over 12,000. Organization has been effected in 89 electoral districts, and there are 465 branches.

The Women's Institutes are much appreciated in the outlying districts, and interest and appreciation have grown beyond the most sanguine hopes of those connected with the beginnings.

Lately many young girls are identifying themselves with this work, and mothers and daughters are working side by side, as the motto goes "For Home and Country." County and district conventions are held for assistance and inspiration, and a circulat-



ing library is giving great opportunities to those who are eager to learn.

By the exercise of talent greater power is gained, and it is found that the local officers gain much and grow ever stronger in this work, and become alert to utilize all materials that are or can be of benefit to the home. Canada shall be the

richer for their lives. The power of organized womanhood cannot be overestimated, and this organization, working not for selfish ends, but for improvement of our homes, ought to have the interest, sympathy, and the support of every loyal citizen.

## Labour-Saving Devices in the Home.



It has been said by some one that whenever the knowledge of a subject passes beyond the stage of drudgery, and becomes a science, its performance becomes a pleasure. This statement is particularly true in regard to housekeeping. I think it may safely be said that the stage of drudgery in housekeeping is fast passing away, and household duties are becoming a pleasure, many thanks to the valuable devices which have been, and are now in increasing numbers being planned for the saving of labour in the household. Of all devices in the home, I think the most important are the living labour savers. The young child, be he ever so small, coming in from play who hangs his hat and coat on his own hook, places rubbers or snowshoes on his own shelf, is and will always be a most wonderful labour-saving device.

Years ago, in what might be called the dark ages as far as invention was concerned, spinning, weaving, dressmaking, tailoring, and soapmaking were all done in the home. Now factories have taken these industries out of the home, leaving, strictly speaking, only cooking and cleaning. With the increase of modern

civilization life has become more complex to the home maker, demanding corresponding increase on her time and energies, and to meet these and compass her household duties, labour-saving devices are of valuable service.

Many so called devices are of real value, and should be part of every household equipment, while others take more time to clean and manipulate than it would take to do the actual work. "A penny saved is a penny earned," is true of labour savers, a real labour-saving device is money earned. In this age of competition business men lose no time in securing the most improved machinery for they know that in the end they save labour, time, and money. In the business of housekeeping, woman has also the right to insist on the most up-to-date equipment.

Devices of long standing, such as the sewing machine, washing machine, clothes wringer, and carpet sweeper already have their place in the equipment of every modern home, but others quite as valuable but of more recent manufacture must be mentioned.

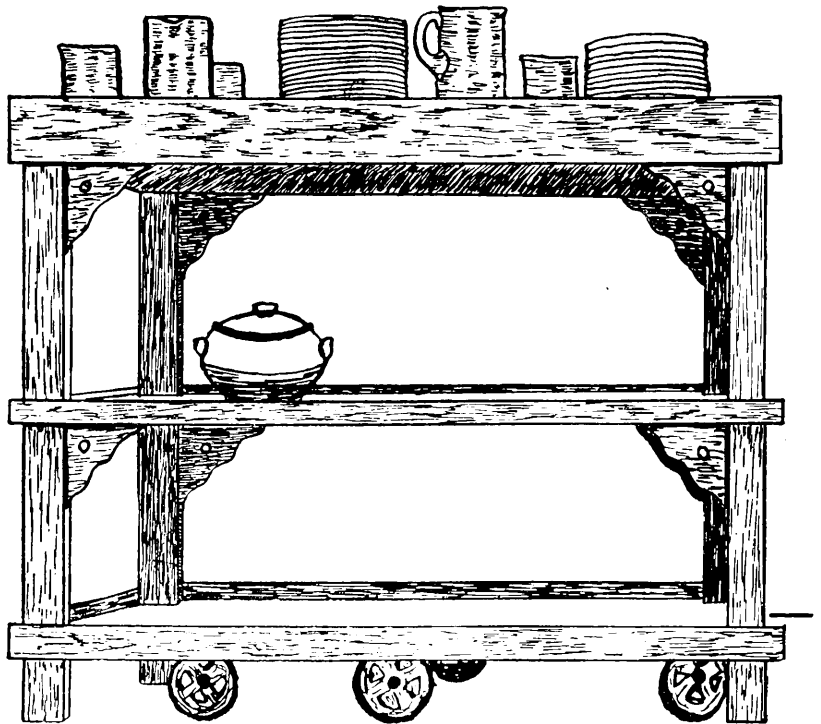
For years now the manufacture of home-made bread has steadily become less and less, largely on account of the

difficulty of making, and the sweet home-made loaf is a luxury. With the modern Bread Mixer there is no excuse for this, as with careful following of the simple directions success is assured. There are also the meat grinder, the bread cutter, the vegetable dicer, the lemon squeezer, the egg beater and the potato ricer, all little things and inexpensive yet valuable as helps.

For cleaning purposes the mop wringer and the Eureka dust mop save time and make work agreeable that would otherwise be very disagreeable. Few homes possess a clothes mangle, and few things save so much in time and energy. By its use no ironing is required for sheets, pillow cases, table cloths, napkins, doilies, and all plain underwear. So that the saving in fuel alone would pay for it, and every woman who has had experience in home laundering knows what it costs in strength, to empty a clothes basket on ironing day.

One of the latest inventions is the dinner waggon. By its use many steps are saved in setting and clearing the table. It takes the place of a tray, is really two large trays on wheels. In the kitchen it is loaded with hot viands, and hot plates if needed, making only one trip necessary to serve the meal. As each course is finished, the soiled dishes can be placed on it and wheeled into the kitchen at the close of the meal. This, as you can see, saves a number of trips between dining-room and kitchen and the effort of carrying trays.

If we were asked whether one device



was more essential than another we would say that having hot and cold water in the house was most essential. A good linoleum on the kitchen floor saves labor, as it is easily cleaned and always looks well, bearing in mind, in this as in many other things, that the best is always the cheapest.

House planning, finishing, and furnishing, all have their part in the making or the saving of labour. Planning of the work rooms, kitchen, laundry, and pantry should be arranged to effect a saving of steps. The finishing and furnishing should be plain, to save work in cleaning and dusting.

It rests with our housekeepers to keep up with the times. We have but pointed out a few important things. If a new method appears, try it; if it proves better than your present method, adopt it. Do not fear to try new things. Your initiative genius may brighten the path for your fellow workers in their labor of love.

J. M. MACNAUGHTON.

## “Fletcherism.”



**F**LETCHERISM is not a fad, it is a fact. It is the outcome of eleven years of deep thought and experimentation by Mr. Horace Fletcher, who discovered it by trying to find out why Nature required us to eat, and how, and where. His firm belief in the intentions of Nature for our good, gave him the key to his problem. For if nature meant that we should enjoy good health, and high efficiency, where then was the trouble? Surely with ourselves. So it was merely a question of finding out the nature of the transgression, and it was not difficult to determine that in nutrition was the evil, and that the fault lay with us before the food was swallowed, for nature has not given us the responsibility and control of the folds and coils of the alimentary canal, but of the mouth only.

According to his theories, appetite plays no small part in digestion, and it is a perfect indicator of what our bodies most need in nutriment and moisture both as to quantity and as to the chemical elements required at the moment. We should therefore wait for a real appetite before eating anything, even if several meals must be missed to obtain it. Appetite is indicated by a strong wish for some simple food, accompanied by a watering of the mouth. When you have it, eat whatever appeals to you most from the food available, and in the order you desire it. But first put aside all worry or depressing thoughts, for they have been proved actually harmful to digestion. Then “Chew,” “Masticate,” “Munch,” “Bite,” “Taste” all the food you take into your mouth, until it is thoroughly

liquefied and made neutral or alkaline by saliva. It will then be drawn up the central conduit of the tongue until it reaches a discriminating vascular gate located at the back of the mouth, where the throat is shut off from the mouth during the process of mastication, and the properly masticated food is allowed to pass this food-filter, and is swallowed without conscious effort.

It will do you no harm, but rather benefit you, to eat just as much of any food as the appetite craves, at any time, whether it be morning, noon, or midnight, providing you masticate it as you should, and that you cease eating when the appetite is appeased.

It has been found that a prolonged mastication and insalivation of food leads to a diminution of food necessary to keep the body in a healthful condition, and further that the digestive functions are remarkably strengthened, as well as the entire physique.

The great trouble of this twentieth century of ours is, that we eat too much, and eat too quickly. We don't stop in the mad whirl to realize, that an excess of food is just as harmful as insufficient nourishment, for it involves, not only wasteful expenditure, but a wasteful expenditure of bodily energy on those organs that can ill afford to be overworked.

Among all the many current movements for sane eating and living, there is no doubt that Mr. Fletcher and his principles have emerged in the very front rank. And he is there to stay, for to the thinking person, his principles come with logical force and his results with emphatic evidence of their truth.

E. F. T.



## Household Science Courses for Girls.

### HELPS TO A CAREER.



EVER before, until the present generation, have the various occupations incidental to the care of a home, and which fall to woman's lot, been seriously studied and scientifically taught, and never, prior to the institution of colleges for women, with Household Science Courses, which are now increasing on this Continent, has it been possible for a girl to fit herself for so many different careers—and that too without competing in the market of men's labour. A large proportion of the girls undergoing these Courses will, of course, display their new acquirements only in their own homes. But we wish, in this article, to consider what different careers are open to a girl of energy and purpose, who has thoroughly qualified herself by a Household Science Course.

Let us first briefly enumerate the practical subjects studied. The most important are Household Art and Economics, Home Nursing, Dairying, Poultry and Horticulture. The first of these comprises Cooking, Sewing, Millinery, Laundering, Manual Training and many other 'practical' subjects. Household management, the keeping of accounts, and house furnishing are other important branches. Such branches of knowledge as Bacteriology, Chemistry and Physics are studied only in so far as they enter into the practical side of home life.

Furthermore, each student, in addition to work in classroom and laboratory, needs, as part of the Course, a week or a fortnight of actual house-keeping under every day conditions, in the College itself.

The teaching profession offers greatly increased attractions to a girl competent to teach one or more subjects connected with Domestic Economy. This will necessitate, in addition, a year's training in the art of teaching. But a girl thus equipped can command a salary, in the West, of from \$700 to \$1,000.

Again, large institutions, like Colleges and Hospitals, are more and more recognizing the value of trained workers, and offer good salaries to scientifically trained Housekeepers, Superintendents and Dieticians.

A girl too may become a salaried manager of a household, for in many large dwellings, where many people are required to do the work, a general manager is necessary. Or she may be appointed as instructress or manageress of Young Women's Christian Associations, and similar institutions.

In these days, when the State shows a tendency to usurp more and more the functions of the parent, it is certain that lecturers and demonstrators in Domestic Economy will be appointed in increasing numbers. And again, the growing movement in favour of the establishment of Women's Institutes will entail the appointment of lady officials with similar functions. They will aid mothers by practical hints in the bringing up of children, in laundry work, in home nursing, and the like, and will give effect to their teachings by actual demonstrations.

Needless to say, we have by no means exhausted the list of vocations open to trained students. But enough has been said to show the value of a course in Domestic Science, to a girl wishing for a life of independence and usefulness.

## Individuality.

It is generally recognized that the one thing which gives value to any piece of art, whether it be a book, a song or a picture, is that intangible something which is called individuality. No amount of perseverance or determination to succeed in any phase of life would be of much value, did it lack personality and charm.

The statement has been made that individuality rests on the principle that a man should be his own master. So we find this self mastery, this quality of individuality, in the men and women who lead the world's march. And we join the rank and file in the procession, look to them for the strength and guidance which their individuality promises us. It seems a strange thing to note, but the very people who possess this quality do not realize the wonderful power and influence they exert over those in contact with them. This is perhaps never so apparent as when such a person comes into close companionship with growing natures. Surely it is while we are still young that circumstance and environment work their will. Hero-worship is as old as the ancients. All histories tell us of instances, from leaders like Alexander and Napoleon, whose complete self mastery gave them an almost unlimited control of their soldier followers, to the higher sacrifice

of Joan of Arc, or Father Damien. These were inspired leaders pursuing a single idea. Perhaps the power of individuality in working for higher ideals, and noble lives, was never better exemplified than in the famous Doctor Arnold of Rugby. Thousands of students passed through his hands, not one of whom but showed in his later life the influence of the beautiful personality of Arnold. Poor Tom Brown, dear to the hearts of school boys, is but one voice of many to sound his praise.

We, too, have had our Arnold; not one of us will ever forget the kindly influence of Doctor Robertson. His personality was strong in rousing love, and we feel that it is due to him that the environment of this college is so happy.

The secret of his success as a leader was the tactful way in which he handled so many different kinds of natures, and made each one feel the good and inspiring influence of his own character.

All who have known Doctor Robertson, feel that his influence upon them was of the highest, and in after years, when so much of the college life will be forgotten, his power of individuality will stand out strongly and will still draw from us our deepest love and esteem.

E. C. H.

M. H. S.

# Under the Desk Lamp



UNDER this heading, it will be the aim of the present editors to deal with such subjects as are important enough to be discussed, but which for several reasons are not suitable for long or even short articles. Some of these subjects might be dealt with under "Editorial," but we can conceive of many other subjects which we consider would be out of place under that heading. For instance, it is to be expected that the students and the Faculty will wish to use the Magazine for the expression of their opinions on any question of interest to themselves, or which relates to their College. We shall therefore welcome any correspondence or verbal opinion or criticism regarding questions of College life, and will endeavour to deal with them under this heading.

## ARTISTIC TALENT.

From time to time, residents at the College have been convinced that there are students in all three schools who possess a considerable amount of artistic skill. Several posters announcing social functions, displayed in the Post Office during the past year show great ingenuity and skill in their execution. Fortunately for the Magazine, these students have been willing to devote much time to designing suitable headings for the various sections, as well as

clever sketches, which appear throughout the text. Attention is called to the full page sketch in this number, which some will recognize as a reproduction of one of the posters mentioned above.

## ILLUSTRATIONS.

All the remaining designs, reproduced as what is known as "line work" are new and original. The "halftone" illustrations which previously appeared in the "Trifolium" are used in this number for two reasons. First, they are worthy of being reproduced; second, the money saved by using them in the place of new photographs has been used to make the Magazine more valuable in other ways. It was no easy task to decide upon a cover design; we think, however, that the present one has much to recommend it.

## THE NEXT NUMBER.

The next number of the Magazine will be a double number and will take the place of both the other two ordinary numbers which were to be published this College Session. It will contain many of the features of the "Trifolium" of last year. Faculty group pictures, Year group pictures, and many others, will make it a strong number. The ordinary features of the Magazine will suffer no deterioration either in quantity or quality. Since, however, all these special illustrations, together with some of the special articles, will be of much



greater interest to the students than to subscribers outside the College, only those at the College will be asked to bear the extra cost. It is believed that the College will welcome this suggestion, more particularly as many have expressed opinions in its favour. The number, whilst it will be much larger than the "Trifolium" of last year, will cost the students much less. As far as is known at present, the price will be 50 cents to members of the College, and 25 cents to other subscribers.

### \$25,000, OR A YEAR AT COLLEGE.

"If it were possible for me to blot out from my life's history the experience of last year, and if anyone were to offer me \$25,000 to do so, I wouldn't do it." This was the statement made a short time back by one of the members of the Sophomore Year. The statement was made in the course of an ordinary conversation regarding the residence life of our College. It was made thoughtfully, yet quite emphatically, and the man who made it is known always to mean what he says. He is one of the most brilliant men in the School of Agriculture, with a character and personality which have won for him the esteem of his fellow-students. The statement might mean many things, but its meaning, as explained by him later, is just this.—The experience of the year had developed and expanded his character as nothing else could have done, and he regarded himself as a different man. It was an experience, however, which not all college life could give. It was the experience of a resident college life, an experience not so much of the class room as of those many varied relationships which everyone in a College of this sort is daily brought into. As he said, "It is not the facts obtained

in the classroom which have altered my outlook on life very much, for, as a matter of fact, just as likely as not, in a few short years after I leave here, many of these facts will be forgotten, but the First Year at College, with all its formative influence, I can never forget."

### DEVELOPMENT.

It is a statement like that made in the preceding paragraph which really portrays the heart of a College. But such development is by no means limited to men with naturally strong character and personality. There is the man of another class whose development is yet more noticeable, viz:—the plastic, good natured fellow who often enters College indifferent as to any future career, and seeking only a good time. Such a man is even more affected by environment, and once he begins to develop, especially under good influence, presents a study far more wonderful and interesting than anything else in the wide range of life's experiences. There is always a certain amount of satisfaction and delight in watching the development of things in nature outside of man's own family, as, for instance, the development of the kitten into the cat, the colt into the horse, or the bud into the fragrant blossom, but there can be nothing more interesting to watch than the development of a student into a man and citizen, realizing that the world is just the place which he makes it. At college a man is bound to discover himself—his weaknesses and his strength—but he does not make this discovery by himself or through his own effort, or because he wills it. He has to discover himself, it is forced upon him, and with this discovery comes also the knowledge that he cannot live unto himself. In

college he realizes that he is part of the college organism, that is, it is he who makes college life. The success or failure of his class is measured by his success or failure just as much as it is by the success or failure of every other member. If he is strong he knows that the class will be stronger because he is in it, and he has discovered himself just as soon as he realizes what college life really is.

### REVIVALS IN RURAL LIFE.

In this discovery of self by the young man brought up on a farm lies the hope of a great revival in fine types of rural life. These men know that college training will give to them a power and a culture. A power which they feel in the long run will make them more successful as farmers, as business men, and as leaders in rural life, than their less fortunate neighbors who have never entered a college. And a culture which they know will before many years give them a social status now enjoyed by their no better trained class-mates who follow callings far less congenial and often less remunerative than that of many farmers. As soon as the farmer discovers himself, and sees what his calling can be made, he will set about the task of reconstructing many features of rural life.

### THE BEGINNING.

Probably most men in the School of Agriculture know that there exists in Ontario a very helpful organization known as the Experimental Union. This organization has its headquarters at Guelph and most of its members are ex-students of the O. A. C. It has already done good work for the farmers of Ontario and is, by its very

nature, a live and progressive organization. The Chemistry department of Macdonald College has for some time past been in communication with the Dominion Agricultural Offices of the Potash Syndicate regarding fertilizer experiments, and through the generosity and co-operation of that firm, arrangements have been made by which second and third year students in the School of Agriculture can, if they so wish, become the pioneers in starting a like organization for their own Province of Quebec. Such an organization could be started by these men undertaking to conduct fertilizer experiments on their own farms during the summer. In a way this organization has already been started, since F. Grisdale, of '11, carried on some experiments at his home last year. However, it will be a good thing for themselves, and eventually for their Province, if many more men undertake to conduct similar experiments this next summer. These experiments will be outlined for them by Mr. Hammond, and the fertilizer supplied without charge by the above-mentioned firm. There is one further suggestion to be made regarding this matter, and that is that the sooner these men can see about making the necessary arrangements the better, as only a limited amount of fertilizer has been promised by this firm.

### EXCHANGES.

The Editors will be glad to send copies of this Magazine as published, to Agricultural Colleges, Normal Schools, and similar Institutions in Canada, Great Britain and the United States, in exchange for any publication of a similar character.

**PRIZES.**

The following prizes are offered to students at the College:—

1. A \$5.00 prize for the best original short story, length not to exceed 1,800 words. This prize will be given by the Magazine.

2. A \$5.00 prize for the best humorous verses. These should not exceed eight stanzas. This prize will be given by the Editorial Staff of the Magazine.

3. A \$2.00 prize for the best snapshot of a typical winter scene, illustrating any Canadian sport or pastime, such as snowshoeing, hockey, skating, sleigh-driving or tobogganning.

4. A \$3.00 prize for the best original pen and ink sketch, illustrating either a College scene or a College character.

**EVENING ASSEMBLIES.**

Everyone will welcome the illustrated lectures which are to be given in the Assembly Hall on certain evenings during this College session. Dr. Brittain's lecture on "Our Native Birds," given on January 29, was the first of this series. Other lectures arranged for are "Forestry," by Dr. S. B. Sinclair, "Wireless Telegraphy," by Dr. C. J. Lynde, "The British Navy," by Dr. F. C. Harrison, and "The Web of Life," by Professor W. Lochhead.

Professors Leacock, Adami, and Walton of McGill University have also promised to give lectures. The subjects and dates will be announced later.

**WATER SUPPLY IN COUNTRY HOMES.**

"The Water Supply In Country Homes" is the title of a book which Dr. C. J. Lynde is writing at the request of a large New York publishing house. The problem of supplying water

to the Farm House is one which is just now exercising the minds of many owners of the better type of farm home. To say that the twentieth century is Canada's century is another way of saying that the twentieth century is the Farmer's century. Aside from the mere fact that already nearly one-half of Canada's population is engaged in Agriculture and that this proportion is likely to increase as she becomes still more the wheat producing country par excellence of the world, it is well to note that this large proportion of her population is fast rising in the social scale. Already many conveniences such as the telephone, free rural delivery, etc., are doing much to militate against the inconveniences of the isolation of the country home, but one of the most hopeful signs of the age is the increasing tendency of the Scientist to apply his expert knowledge to the problems of everyday life. The aim of Dr. Lynde is to deal with this whole question of water supply to the farm house in the most practical way. In his book every method of doing so, together with the scientific principle upon which it is based, is taken up and discussed, but this is by no means all that is done. To make the book more helpful and practical, he has included a series of chapters on "What may be done for \$10.00, \$50.00, \$100.00 and \$150.00." The class of people to whom this book will particularly appeal includes residents and farmers in the towns and villages who are moderately well off but who have not introduced any modern improvement into the home for two reasons: First, it has never occurred to them to do so; second, they do not know how to go about it. It is quite evident that if the owner



of a farm home where the well is about fifty feet from the house, knew that for the sum of ten dollars (\$5.00 for piping and \$5.00 for the sink and waste pipes) he could save his wife all the daily work of carrying water that distance, he would soon alter present arrangements. The aim of this book is to tell people how to make their homes more convenient in this and other ways, for the smallest outlay. Dr. Lynde will be glad to hear from anyone who has any such modern improvements already installed, and to have from them any suggestions that may be of value from this standpoint of expense.

#### ALUMNI ASSOCIATION.

In the judgment of many members, both past and present, of Macdonald College, the time is ripe for the formation of an Alumni Association. For though as yet no students taking the four-year course in the school of Agriculture have joined the ranks of Alumni, there is a considerable number of men who completed their curriculum in two years, and their ranks have been reinforced by two graduating classes from each of the other two schools.

It has been thought that this Magazine may be made both the medium whereby those students who have left the College can be apprised of the project, and brought into touch with the promoters of it, and the organ of the Association when formed. It is hardly necessary to point out how valuable such a Society is. It welds and strengthens the ties formed during College days, it establishes and extends a circle of friends having a common bond, and a common tradition, and it gives stability, dignity and prestige

to the College from which it is recruited.

We hope that all past students of Macdonald College will lend their aid to the promoters of this scheme, which is at present, of course, only in its initial stages. If they will carry out the suggestions which will be made to them in the next issue, no difficulty will be found in creating a flourishing Association by the close of the present Session.

#### AN INNOVATION.

The School for Teachers has never, since the College opened, been without one or two specimens of male humanity to set off the galaxy of feminine grace. But hitherto none of the sterner sex has dared to venture into the realm sacred to the fair votaries of Household Science. A rumor, however, which we believe to be well founded, has it that at no distant date a man, positively a man, will be seen turning a mangle, working at a "cutting-out" table, and puzzling with clumsy masculine fingers over the intricacies of feather-stitching. We admire his originality, and we hope to taste his cookery, but not just yet. The mysteries appertaining to the creation of croquettes and waffles, of salads and timbales, of cutlets and Christmas cakes, and a hundred other delights, are not mastered in a day.

Already, before he has arrived, we feel drawn in sympathy to this pioneer in a totally new field of man's labour. He has much in store for him. We shall be with him in spirit in the hour of initiation, a ceremony always performed by a class on any new member. But he can look forward to glorious compensation. Doubtless he too will have a colleague during his week in the apartments. Upon our Editorial soul, we envy him!

## Our Class Presidents.

Miss Hope C. Black, for the second time president of her class, Teachers '10, is a Montrealer. At an early age she entered the High School for girls, in which she pursued the paths of knowledge until coming to Macdonald in 1908. Since then she has been associated with many successful student organizations and has displayed tact and good sense in large measure. Miss Black enjoys a well deserved popularity throughout the entire student body.

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Miss Mary I. Innes is a native of Coldbrook, Nova Scotia. Having attended the High School in that place, she obtained matriculation into the Dalhousie College, Halifax, and thence proceeded to Edgemoor. After one year, she enrolled as a Household Science student at Macdonald College, and is now fulfilling the position of president of the senior class in the School of Household Science. We wish her all success.

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The president of the elementary teachers is Miss Jean K. Hogg from Longue Pointe, Que., and we are proud to note that she differs radically from the popular conception of "Longue Pointe." The Montreal High School for girls furnished her with an education before she sought the classic halls of old Macdonald last fall, where she was promptly elected to the office she now holds. Miss Hogg is genial yet reserved, and we congratulate the Teachers on their choice of a leader.

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From sunny South Africa comes Miss J. C. Van Duyn, the winning president of the first year Science girls. Born at Porterville, Cape Colony, she early attended the "Staat's Meisjes School" in Pretoria. Miss Van Duyn is here as an able representative of the Agricultural Dept. of the Transvaal Government. Her pleasant manner, taste, and genuine ability won the instant favor of her class on her arrival at Macdonald and we tender her

our warmest wishes for future prosperity.

\* \* \*

Alfred Savage, president of the third year in agriculture, was born in Montreal in 1889. "Alf," as he is known to his classmates, spent his early life in various boarding schools in the Province, where he always managed to have lots of fun. He finally graduated from the Montreal High School in 1906. Gifted with a strong personality, Alf stands high in the esteem of his fellow students. In genuine good nature and buoyancy of spirits he is perhaps unsurpassed by any man in the college. He is the Buffalo Bill of his class and seeks the excitement of the west in summer. There can be no doubt that the future holds much in store for him.

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Montreal claims the honour of being the birthplace of Robert Newton, president of class '12 in agriculture. We beg to announce that the centenary of his birth will be celebrated on the 7th of February 1989. His early studies were prosecuted at the Montreal High School. After finishing his second year there, he entered on the harrowing career of agriculture on his father's farm. In 1908 he came to Macdonald College, where with consummate ease he bounded to the top of his class. This dizzy eminence he continues to hold against all comers.

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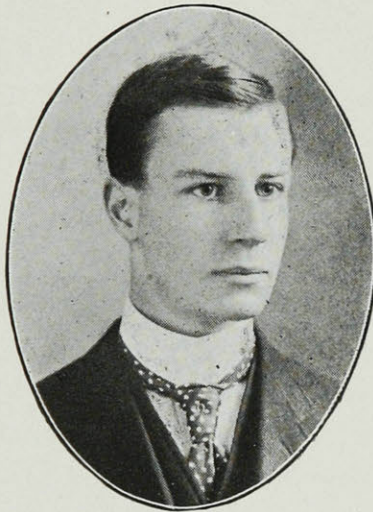
Agriculture '13 have at their head Mr. J. Sydney Dash, who hails from far Barbados, having been born on a sugar plantation (the effects are still visible) near that place in 1887. He was educated at the Combermere School and holds the Cambridge Local certificate. On graduation he served the department of agriculture for the British West Indies for a few years before coming to Macdonald College. "Syd" is earnest and sincere and commands the unrestrained respect of his class, who agree that he is the right man in the right place.



J. C. VAN DUYN



JEAN K. HOGG



ALFRED SAVAGE



ROBERT NEWTON



J. SYDNEY DASH



HOPE C. BLACK



MARY I. INNES







### THE SOPHOMORES' CELEBRATION OF HALLOWE'EN



FIENDS, witches and saints were the chief features of the Sophomores' Halloween celebration, thus carrying out the two traditions which make that evening a night off both for the inhabitants of Hades and the saints from Celestial shores.

The ceremony took place about 9 p.m., on the campus in front of the ladies' residence.

The fiends appeared first and after a wild and energetic orgy—around a blazing bonfire—were interrupted by a procession of solemnly chanting monks. The evil spirits were apparently about to attack their eternal enemies, when the spirit of Macdonald College intervened. Enthroned on a car, beautifully decorated in green and gold, the spirit had hitherto been watching the proceedings in silence. Now, however, he sternly bade the fiends and witches depart until repentance came. These slunk shamefacedly behind the Macdonald College car and after a few moments, apparently chas-

tened by the college influence, they reappeared—a most modest and well behaved set of demons.

Demons and monks now gathered around the glowing logs and seemed to forget their differences in a common desire to serenade the inmates of the Ladies' Residence; also due, perhaps, to College influence! Nothing could have been more beautiful than those old-fashioned melodies sung by the light of flickering torches, around the glowing embers of the fire.

The regret was universal when the Sophomore song and cheer announced the close of a beautiful and appropriate scene.

R. S. K.

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### A NOVEL INITIATION CEREMONY.

Upon entering their third year, the Class of 1911 in Agriculture were joined by three new students, who had taken their two years' course at the Ontario Agricultural College.

Before becoming members of the year, they were examined as to their fitness to do so, by their future class-

mates. This examination took place in a court-room, presided over by a magistrate and with members of the class arranged around as expert counsel on behalf of the year.

A spade is exhibited and the candidate asked to define it and give its uses. This he does to the best of his ability. The agricultural expert then examines the statute book and finds that the spade is a form of the lever, made from the deposits of the pre-cambrian age by a species of mammalia of the post-Neolithic epoch, called *Homo sapiens agriculturus*. It is still used in those parts of the world where Neolithic customs prevail, for the purpose of inverting the superior surface of the post glacial strata. After several such questions as these are put, the magistrate declares that the candidate's replies have been inadequate and that he can only join the class by being formally united to the representative of the year.

The candidate and the year representative, arrayed in gorgeous bridal costume, then advance to the "wholly agricultural altar" formed for the purpose of various agricultural products and on which are burning eleven candles symbolical of the year. Here the ceremony is performed in a solemn and fitting manner, by the typical high priest of agriculture, and the candidate swears to remain true to his class. "till the locusts devour the sow thistles and the bacteria cease to browse on the alfalfa." The contracting parties are then declared "one molecule of two atoms."

After the ceremony was repeated for each candidate, a short wedding tour was taken around the campus and the ceremony terminated by a wedding feast, which was by no

means the least enjoyable part of the ceremony.

W. H. B.

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### IMPRESSIONS OF A FRESHMAN.

Our first year has now been half completed. We feel extremely grateful for being given an opportunity of enjoying the many advantages of a place like Macdonald College.

Arriving as we did in mid-autumn, we were struck with the natural beauty of the place, and still more when we saw the magnificent buildings, to which we were soon to be introduced. We next found ourselves in touch with a most congenial lot of fellow-students, who did all in their power to see us carefully installed. The Faculty, too, have spared no pains in helping us to realize the many objects for which we are here.

Our first introduction to the mysteries of Macdonald College was made by the Sophomores, who on the first night of our arrival, kindly treated us to a ducking in the swimming tank, which they thought was the best way of initiation. The swimming tank, then, marks the first meeting-place of the members of Class '13. Since that time, our fondness and appreciation of all for which Macdonald College stands have been steadily increasing until now we find ourselves enjoying to the full all the rights and privileges she offers to freshmen.

It is impossible to tell in this space all our impressions, but many of them stand out in bold relief and no doubt can never be erased from our memories. Perhaps one of the very first is the fact that the majority of us come from all parts of the Dominion, and some

few of us from still more distant regions of the world. As a consequence, therefore, our stock of information must be considerably increased the more we come into contact with each other; and then, too, the individual must benefit by mixing with men whose ideas on many matters run along widely different channels.

Who among us can forget the first reception accorded us by the students in the boys' gymnasium? From that time there has existed between us all a marked good fellowship, which we hope will ever continue.

We lost no time in taking advantage of the well-conducted organizations of the place, such as Literary Societies and Athletic Associations. It was on Field Day that we first came well into prominence, as seen by the results which are dealt with fully in the athletic column.

In the Assembly we are impressed with the addresses heard from prominent men, and shall hope ever to remember the talks and kind words of advice given us there by the many speakers, especially our Principal, Dr. Robertson, in whom we find a true friend, always ready to do his best for our welfare.

In the class-rooms and laboratories, a feeling of pride comes over us when we see their fine equipment. The laboratories need special comment in this regard, for we found out at a very early date the importance attached to laboratory periods. The large library too is an acquisition which impressed us, since it contains in addition to the usual stock of literature, reference books which are used in connection with lectures.

While the educational advantages of Macdonald stand out very prominently, yet those of social life are not

entirely lost sight of. Opportunities for the enjoyment of life here are many. We shall always have pleasant recollections of the Post Office with its scenes and faces; the enjoyable evenings spent at receptions and entertainments, held sometimes in the Assembly Hall, sometimes in the Girls' Residence and sometimes in our own. Those of us who stayed here during the Christmas vacation, will look back with pleasure on the jolly way in which we spent our first Christmas at Macdonald College. Our special thanks for this are due to many of the Faculty and Staff who made us feel quite happy, in spite of our being away from home.

Our Christmas examinations brought us no little anxiety, but their results we are glad to say made no serious changes among us. We are back again once more and hope that the unity and good fellowship which have existed between us will always continue.

J. S. D.

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#### MACDONALD COLLEGE LITERARY AND DEBATING SOCIETY.

Honorary President—Dr. Robertson.

Honorary Vice-Presidents—Mrs. Muldrew and Dr. Lynde.

President—Mr. A. E. Lods.

First Vice President—Miss Emily Blomeley.

Second Vice President—Mr. W. Bond.

Secretary—Miss Hope Black.

Treasurer—Miss Agnes Clouston.

Committee—Miss Marian McDonald, '10; Miss Lois Mackay, '11; Miss Edith Foster, '10; Miss Dorothy Hatton, '11; Mr. J. G. Robertson, '12; Mr. W. Gibson, '13.

This Society, which is the Literary Society of the entire student body,

started its work for the 1909-1910 session on October 20th, 1909, when the officers for the year were elected. Two meetings have been held so far. At a closely contested debate, Miss Marian McDonald and Mr. K. Fiske opposed Miss Emily Blomeley and Mr. Durost on the subject of the Canadian Navy. This was followed by a literary evening three weeks later, when various members contributed readings, recitations and musical selections.

The programme for the remainder of the season promises some very interesting evenings, including two debates, an oratorical contest, and a mock trial.

The Society has the enthusiastic support of its members at the meetings, and a keen appreciation is shown by all.

H. C. B.

#### TARTAN LITERARY AND DEBATING SOCIETY, CLASS '11.

Honorary President—H. S. Arkell, M.A., B.S.A.

Honorary Vice-President, Mrs. J. F. O'Hara.

President—William H. Brittain.

Vice-President—F. H. Grindley.

Secretary-Treasurer—Ernest Rhoades

Members of Committee—W. Logan and F. E. Buck.

The Tartan Literary and Debating Society has now completed two and one half years of its history. During this time the work of the Society has been characterized by an ever increasing interest and enthusiasm on the part of its members. On looking back over the period, the society feels that much progress has been made in literary work as well as in public speaking. The excellent character of the debates has

been a particular feature of the work of the Society, for the constitution especially provides, that a debate must be held on each alternate night of meeting and that no member shall debate twice until all have had an opportunity of taking part in a debate.

The success of the meetings has been largely due not only to the efforts of each and every member of the Society, but also to the kindness of other members of the Student body and of the Faculty, who contributed to the entertainment and pleasure by taking part in the programmes.

#### AGRICULTURE CLASS '12 LITERARY AND DEBATING SOCIETY.

Officers:—Honorary President, J. M. Swaine, M.S.A.

Honorary Vice President, D. MacFarlane, Ph. D.

President, R. W. D. Elwell.

Vice President, K. M. Fiske.

Secretary, H. B. Durost.

Treasurer, J. G. Robertson.

Committeeman, G. Boyle.

This Society has so far during this session continued its successful career of last year. Several excellent debates have been held and the literary and musical evenings which alternated with them have been varied and interesting. The programme for the remainder of the session will prove, it is hoped, equally attractive and successful. The most encouraging fact in connection with the Society is the high average attendance at the meetings. At no meeting this Session has the attendance fallen below 70 per cent. of the class.

The Society wishes to express its hearty appreciation of the help and support accorded to it by various



members of the Faculty, who have most kindly acted as critics at its debates and have aided in its literary programmes.

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#### AGRICULTURE CLASS '13 LITERARY AND DEBATING SOCIETY.

The Class organized its Literary Society early in the Session, a Committee being appointed to frame a Constitution, and to nominate officers for the year. This Committee's subsequent report was adopted, the following officers being elected:—

Honorary President, F. Bates, B.A., Hon. Vice President, H. Barton, B.S.A. President, J. E. McOuat, Vice President, G. Halliday, Secretary, W. Ford, Treasurer, H. W. Hinton, Committeeman, A. Emberley.

The Executive Committee, while striving to maintain a high standard, nevertheless extends to each member the privilege of taking part in the year's programme.

Much of the success of the Society's meetings is due to the kind assistance of the different members of the College Staff, who have given addresses and also acted as critics at Debates.

During the first term five meetings were held, with an average attendance of thirty-four out of a class of forty.

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#### MODEL CLASS EVENING.

Out of a class of eighty there were but thirty-three so termed 'old girls'. This, owing to the difference of preparation, led to the class being so divided that the stress might be laid on that most needed by both "old" and "new" girls. This proved highly satisfactory on all but the

social side—here there seemed a barrier. To overcome this a Model Class Evening to be held every second Friday was proposed.

The first evening given on November the twenty-sixth was held in the Assembly hall and was open to all.

After a very witty little speech by the class president, Miss Hope C. Black, came an instrumental piece by Miss Aird, a trio by the Misses Roy, Tanner, and Gilbert, and a violin solo by Miss Amy.

Then came a little drama which was supposed to represent the meeting of a secret society in the Girls' Residence, —at which a rehearsal was held for a Shakespearean concert to begin in aid of the Macdonald crippled foot-ball players.

Our only regret was that Shakespeare himself could not be there, for how could he have been otherwise than flattered to have his Romeo appear in a certain far-famed chemistry coat and freshman cap, to have one of Macbeth's most thrilling speeches intermingled with whiffs of one of the historic Household Science cakes, or to have such a far-famed character as Spicy Robin introduced into Ophelia's mad-scene—to say nothing of the very literary tone given by the liniment and bandages on which Norah, the Irish maid, seemed to pin all her faith?

The evening wound up with a number of choruses by the whole class, accompanied by Miss Black on the piano and the Misses Mowat and Amy on the mandoline. E. S.

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#### THE GIRLS' RECEPTION.

The poster had aroused the interest of the invited guests, who were received by Mrs. Muldrew and the Misses Black

and Gordon in the gymnasium, which was tastefully decorated in gold and green and with banners representing many colleges and clubs; while settees were arranged around and the notice which read, "This waye Two Thee Settin' Room" showed to what use the gallery had been dedicated. At the far end of the room were gypsy tents in which fortune tellers brought to light many interesting facts.

As this was the first reception given by the girls and the necessary introductions would be many, the introduction committee devised a way which would prove both amusing and effective.

Everyone was given a tally card on entering—the aim being to get as many names of the opposite sex as possible on these cards in a limited time; and with the exchange of names went a hand-shake after which one was supposed to be formally introduced.

At the end of forty minutes the signal was given for the beginning of progressive games. Fifty tables were arranged—three couples at each table and a young lady in charge of every two tables.

At these tables, besides bon-bons, were to be found every heard-of game and many unheard of ones, to judge by the actions of some of the gentlemen—for some of these games cast light on many hitherto unknown traits of character—even to the mind and hand reader—as was the case in the threading of needles.

Finally the games were given up for a promenade, and the Tally cards were collected.

Mrs. Muldrew presented the prizes. Miss Moffatt was the winner of the ladies' first prize, which was a large Macdonald banner. While Mr. Gorham, a freshman, represented his class

in the most characteristic manner possible, having shaken hands with the greatest number of ladies and changed partners oftenest in the games. There was yet another chance for the Juniors or Sophomores to win lasting fame for their class. But no—Mr. Barton, a member of the Staff was claimant of this honour, for to him went the toy drum as booby prize.

The customary "Auld Lang Syne" closed the very enjoyable evening.

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#### THE INITIATION OF SCIENCE '11.

Honsehold Science '11 were just beginning to feel at home in Macdonald College, and even starting to put on extra airs and graces before the rest of the world, in their pride at being Macdonaldites, when of a sudden their conceit was dispelled, their self confidence replaced by timidity and much trembling. The cause was a summons received by each member of the class ordering her to appear before their Seniors in the Alcove outside the dining room on the night of Wednesday, Oct. 13th, 1909.

It was whispered that dreadful things were to be done that night. Even a ducking in the tank, in this suffragette age of violence, might be feared. Still such a summons was not to be disregarded. So on the appointed night, the class gathered together as they were commanded and faced the Seniors, who were arrayed in dignity and college gowns, from underneath which showed the more friendly uniforms and white aprons. An imposing address was first read, which proffered to the newcomers the results of much wise and rich experience.

This finished, in awed silence, the Juniors saw their classmates being led

away in alphabetical order, two by two. What their destination was, no one could know. It proved to be the music room, lit by dimly burning candles. Here they were made to kneel, and sign an oath swearing loyalty to the College, continuance in the custom of initiation, obedience and deference to their worthy seniors. Then a card of initiation was presented to each. This was a photograph of the Senior class at work in their kitchen, signed on the back by the several members.

This was not all. Each Junior was blind-folded, turned and twisted, till she had lost all sense of direction and finally brought to in the Faculty Reception room just across the hall where

tableaux of Household Arts spread themselves before her wondering eyes. The first showed a Household Science girl baking, the second washing, the third ironing, the last sewing.

They were guided around and allowed to gaze on these and then dismissed with the wish that they would not be so green at the end of the year.

When all the Juniors had undergone these ordeals, there was a reunion in the music room, now brightly lighted. The Seniors administered lemonade and sandwiches which so recuperated the Juniors after the terrible strain they had been subjected to, that they were able to heartily sing "For they are jolly good fellows, which nobody can deny."

B. L. M.



To the little white hen said the big black rooster,  
 "You don't lay eggs as often as you uster;"  
 Said the little white hen: "Oh! no, you bet,  
 I'd have you know I'm a Suffragette."

## Student Self-Government.

By F. W. BATES, B.A., Assistant in Physics, Macdonald College.



NE of the most troublesome problems in connection with college life is that of residential government.

Several methods have been tried and found more or less successful. These range all the way from a form of autocracy, with a Resident Master in charge, to some form of democracy, with the government more or less in the hands of the students themselves.

This same problem presented itself with the opening of Macdonald College—where the whole student body lives in residence. There are two dormitories, the Girls' Building—which during the first year (1907-08) was the home of one hundred and fifty girls—and the Boys' Building, with about fifty boys, besides members of the teaching and administrative Staff. This year the numbers are much larger. The Girls' Building could not accommodate all the students, and it was found necessary to make over part of the upper floor of the Main Building into bedrooms, and this portion is known as the Girls' Residence Extension. In these two buildings there are about two hundred and twenty-five girls, while there are one hundred boys living in the other dormitory. It can be seen at once that the proper administration of discipline and maintenance of order in these residences is a matter of more than common interest.

There are but a few general rules that govern conduct in Macdonald College. One of these is that from eight to ten o'clock at night every student shall engage his or her time in study, without wandering from room

to room or making unnecessary noise. From ten to half-past ten is a recreation period, during which the gymnasiums are open; all lights being out and quietness observed by eleven o'clock. By whom and how are these rules enforced?

In the girls' dormitory the matter of conduct and discipline is in the hands of what is known as the "Court of Honor," which consists of all students resident in the Women's Building, and which meets once a month to elect officers who constitute the Executive Committee and hold office till the appointment of their successors. These officers are a President (from the Senior Year), a Secretary, and Representatives or Monitors from each Corridor in the residence buildings. At each meeting at least one representative from each floor is re-elected to serve a second month, in order that there may be some permanence to the composition of the Committee. The Presidents of the Senior Years are ex-officio members of the Executive Committee. This committee has general oversight of the conduct of the women students in residence, and its decisions are final, excepting that the individual student has a right to appeal to the "Court of Appeal and Conference." The "Court of Appeal and Conference" consists of the House-Mother, three other ladies of the College Staff and the President of the Court of Honor, and may be called into conference with the Executive Committee, besides being the Court of final appeal for the student.

During the College Year 1907-08 discipline in the men's dormitory was maintained by the resident members

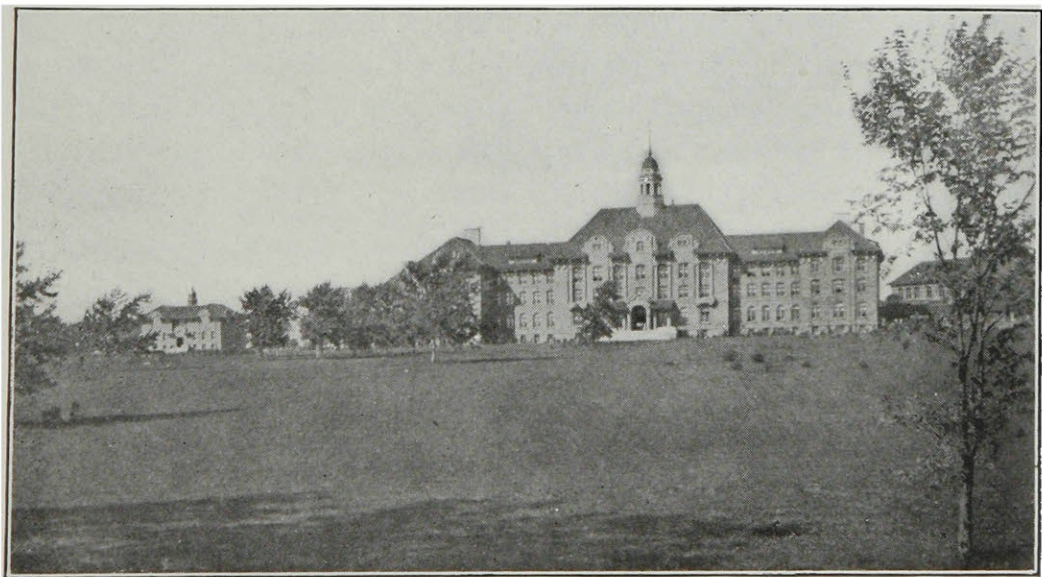


of the teaching Staff—one of whom had charge for a period of one month. This method proved a source of much amusement for the students and worry for the Professor in charge. Last year, however, a different method was adopted and worked so well that it has been continued this year.

A Residence Committee was formed consisting of a President elected by the whole student body from the Senior Year and three members from each year elected by the student body on nomination of the respective years. This committee meets and deals with all matters of conduct and discipline, investigates troubles, recommends fines or other punishment, which are levied or imposed by the Governing Board of the College. The President holds office for a College Term while the other members hold office for only three months, retiring one at the end of each month, so that the committee has never more than one-third untried members.

There is also an Advisory Committee, consisting of the President of the Residence Committee, the Presidents of the College Years and three resident members of the teaching Staff. This committee is simply advisory, and has no initiative powers. It serves as a sort of safety-appliance, being used only on especially difficult problems. During last year this committee was only called together once.

This system of self-government has accomplished much. It has ensured better all-round conduct, but better still, it has given to the students themselves a feeling of responsibility which in itself is one of the things most needed by the ordinary college student. Further, it gives practice in the proper management of affairs, and fits for practical after-life. These experiments being worked out daily at this new College show conclusively the immense advantages and value of student self-government.



THE BEAUTIFUL CAMPUS AT MACDONALD COLLEGE,—A SUMMER SCENE—THE MAIN AND CHEMISTRY-PHYSICS BUILDING IN THE BACKGROUND.

## Dr. Robertson's Resignation.



WHEN, at the last Assembly for the Fall term, Dr. Robertson announced his intention of taking advantage of a three months' leave of absence to study rural economy in some of the countries of the Old World, where progress in all that pertains to the betterment of the people who live in rural districts is most advanced, all felt that the Principal was about to enjoy a well-deserved vacation. For over five years he had devoted himself with untiring energy to the task of planning and superintending the erection of the magnificent group of buildings which comprise Macdonald College. Now that the work was no longer in the initial stages, but had been placed upon a firm foundation and was being received with a larger measure of acceptance than its most enthusiastic advocates would have dared to predict five years ago, the time seemed opportune to indulge in a long-cherished wish to revisit some of the countries of Europe where the most progress had been made in agricultural co-operation, as a result of a system of education designed to be of practical assistance to those who live on the land. Incidentally, in France

and Switzerland, an opportunity would be afforded him of acquiring a greater proficiency in the French language.

On the following evening, however, at a Faculty meeting, Dr. Robertson stated his intention of severing his official connection with the Institution. He had, he said, planned to spend a few months in Europe, after which, he would visit Australia, South Africa and India, where he would address representative public bodies on the resources of Canada and the accomplishments of her people.

At the expiration of the year spent abroad, Dr. Robertson will re-enter public life as a member of the Commission for the Conservation of Natural Resources. In this capacity his knowledge of Imperial economic problems, obtained at first hand in the principal dependencies of the Empire, should prove of inestimable value to the Dominion.

With his intimate knowledge of Canada's agricultural problems and the educational requirements of rural communities, Dr. Robertson, in his enlarged field of activity, will have a splendid opportunity of rendering increasingly valuable service to the land of his adoption.

L. S. K.



## Changes on the College Staff.



N account of the frequency of their occurrence changes in the ranks of Staff or Students are perhaps looked upon with a certain amount of equanimity, but the departure of a matron causes more than a passing interest. This interest is all the more marked when such a person as a matron who is loved by all, leaves us.



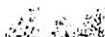
MRS. O'HARA

Mrs. O'Hara took up her duties in September 1907, and when the Students in Agriculture arrived in November they found the building ready for them, and Mrs. O'Hara receiving them in her care. From that day to the day of her departure she was looked up to by all "her boys" as a sample of a perfect matron.

When things were running smoothly her presence in the building was evidenced by little touches of kindness; her gracious smile and genial presence brightened many a dull day. In the

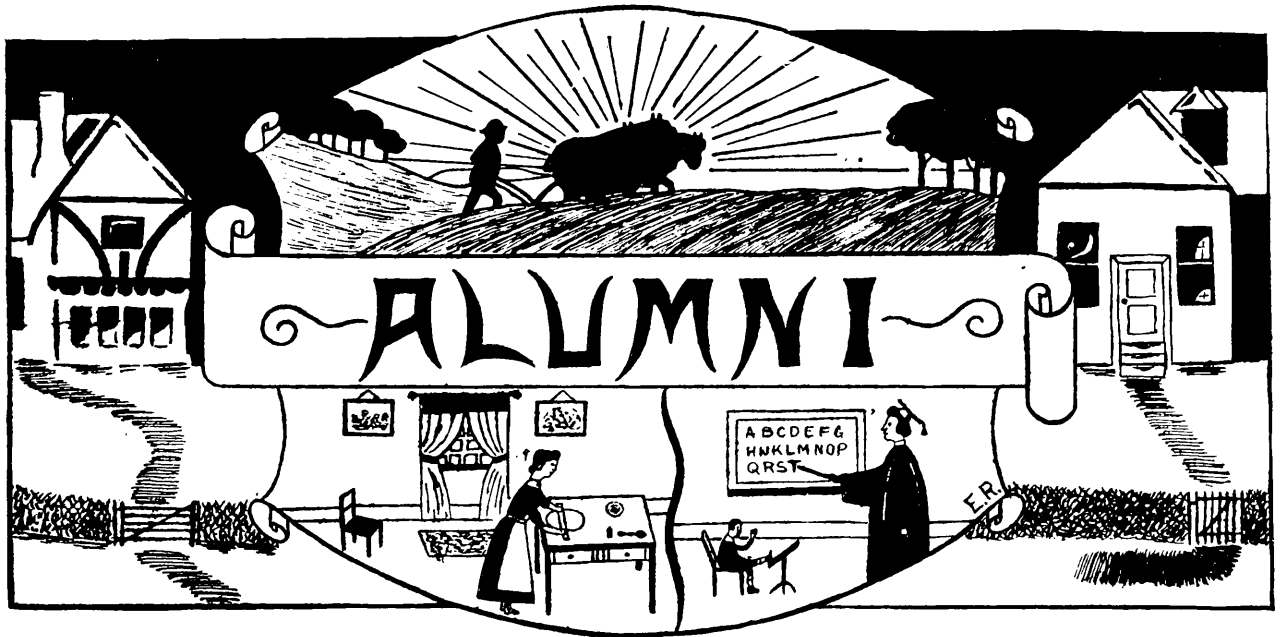
sick room she excelled, for there she was a veritable ministering angel. It would be safe to say that many of the fellows were sick just to have Mrs. O'Hara attend to them.

Mrs. O'Hara is an Honorary Office-bearer in every Class Literary Society. She is the Honorary Vice-President of Class '11 Agriculture—her first boys—and is included with Dr. Robertson the Honorary President in this year's class picture. The graduating class of the Royal Victoria College, many of the members of which spent ten days here last spring, presented her with one of their class pins as a slight recognition of her care of them while they were here.

And not only by the Students in Agriculture will Mrs. O'Hara be missed. The members of the staff, the Students of the other two schools, and the people of Ste. Anne's, all had the same kindly regard for her, and she will be remembered long by them. Tangible tokens of regard were presented to her at Christmas by the Staff, the Students in Agriculture, the Tartan Literary and Debating Society, and many individual friends, whose wish is that she may have "all the joy that she can wish" in the years to come.  W. L.

The position of Matron of the Men's Residence, vacated by Mrs. O'Hara's departure, has been filled by Miss Nealina Macmillan. Although Miss Macmillan has been with us but a short month she has already won the confidence of every one under her charge.

A native of Mount Forest, Ont., Miss Macmillan received her professional training at the Macdonald Institute, Guelph, where she graduated in 1908 with First Class Honours. Since graduation she has been a member of the Faculty at Guelph, having charge of the Student Practice Housekeeping Department.



The Alumni Editors appeal to the former students of the College for help and support in making this department of the greatest possible interest to the subscribers. They will arrange with the Editorial Staff for as much space as possible to be reserved for these articles, and it is hoped that former students will send in to the Alumni Editors any information suitable for insertion in these columns.

C. P. Lee, who took the first two years with Class '11 in Agriculture, is now farming a section near Meyronne, Sask. An enthusiastic athlete, he held the Presidency of the Athletic Association for the year 1908-09. It is understood that he intends producing seed grain when he gets his farm into working order; his two summers on the Cereal Husbandry Department of the College will be of great benefit to him in this line of work. We wish him all success.

J. A. Philips is now Horticulturist at the Boys' Farm at Shawbridge, Que., where as Housemaster he is able to

put into practice the theories of government studied while he was on the Residence Committee. "Tiny" was here for the Pomological Society meetings and looked as if the work suited him. Besides superintending the work outside he is teaching agriculture in the class rooms to the boys during the winter.

M. E. Honey is farming at his home in Abbotsford, Que. His continued interest in the College and the College organizations and people is shewn by his occasional visits and communications to his former classmates. He was president of the Tartan Literary and Debating Society in its first year and helped to give it a progressive spirit which has helped it along so far in its successful career.

Roy St. C. Waddell is another of the men who took the first two years with Class '11. He is now "back on the farm" at his home at Reed's Point, King's Co., N.B. His smile and noise are much missed in the residence.



It was unfortunate that J. M. Hacker found it impossible to continue the course. He took a deep interest in all the College affairs and was a keen student. He hopes, however, to return to complete his course in the near future, and we hope he will be able to do so. His address is North Bedeque, P.E.I.

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The School for Teachers in its first year here had only one Committee for the two classes.

The President, Miss D. Bushell, was chosen from the Model Class, and while she held office she had the full confidence not only of her own school but also of the other two schools. Miss Bushell, whose address is 2 Thornhill Avenue, Westmount, is teaching in Rosslyn Avenue School.

Miss Burbank, the Vice-President of the School for Teachers in the year 1907-08, was chosen from the Elementary Class. She was deservedly popular with all those with whom she came in contact. Her address is Danville, Que.

Miss Charnock, one of the Model Class of '08, after teaching at her home in East Angus, Que., for a year, removed to Winnipeg to help spread in the West the good influence of Macdonald College. Her address is "3 Section D", Fort Garry Court, Winnipeg.

Miss W. M. Crossley will be remembered as President of the Model Class of '09, and as an enthusiastic basketball player. She teaches in Montreal.

Miss G. E. Hatton, Vice President of the Model Class of '09, is Principal of a school at Lacolle, Que., and is meeting with much success in her work.

Miss V. Telfer, Model '08, has removed to Atlantic City, New Jersey.

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NOTE—Less information with regard to past members of the School for Teachers is available for this issue than the Editors would like. They will, however, see that more space is devoted to them in subsequent numbers.

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When the first Students in Household Science at Macdonald College met to elect Class Officers, they chose as President Miss M. Dowie. To her, in company with the Presidents in the other schools, fell much of the work of getting College affairs into working order, and the work also of choosing College colours and designs for crests and pin. The success with which Miss Dowie met as President of her class was shewn fully the next year, when she was elected by all the girls as President of their Literary Society, the work of which she carried on as successfully as she had performed the duties of her former office. Her address is 460 Argyle Ave., Westmount.

Miss Aline Pomeroy made an efficient President of her class of '09. One of her last acts of office was to organize the first Alumni Society of Macdonald College, the purpose of which is to foster the spirit of good comradeship that had always existed between its 25 members, and to further this purpose they purchased a handsome leather book which is to be sent to each girl in turn. She may keep it for two weeks only, and write in it any news she has to tell the class. She then passes it on to the next girl on the list, and so on until the circle is complete; then the round begins again.

At the end of two years, at Convocation in June of 1911, they are to have a class reunion and read the account from their class book. Miss Pomeroy is at her home in Compton and sends all success to the College.

The three graduates from the Teachers' Household Science course of 1909 are all doing well.

Mrs. Rutter is now teaching Household Science in her Alma Mater, Macdonald College, and is achieving great success in her work and gaining withal the respect and affection of her pupils.

Miss Creelman is Supervisor of Sewing under the Vancouver Board of School Trustees and is doing her share in the introduction of Household Science into the curriculum of the schools there. We are sure that Macdonald College will have reason to be proud of the results of the work of her first graduate in the far West.

Miss Clark is teaching in Montreal and carrying on demonstration work in the evenings.

Miss Annie Holliday, Science '09 (Mrs. A. Pelletier), was married in September to a prominent lawyer in Montreal and is now living at Point St. Charles. She was well and happy when heard from last.

Miss Katherine Boyer (Mrs. J. W. Jones) was married on December 22nd, and is now living in Virginia.

Miss Munsey, Class '10, was married last June.

Miss Marjorie Flewelling is teaching Household Science in Florenceville, N.B.

Miss Jessie MacNaughton, '09, is now the Assistant Dietician at Macdonald College.

Miss Armitage and Miss Dickieson are completing their course in music, the former singing in the Cathedral, Montreal and the latter teaching in Ottawa.

Miss Jean MacLeod, '10, is teaching Household Science in the Macdonald Consolidated School in P.E.I.

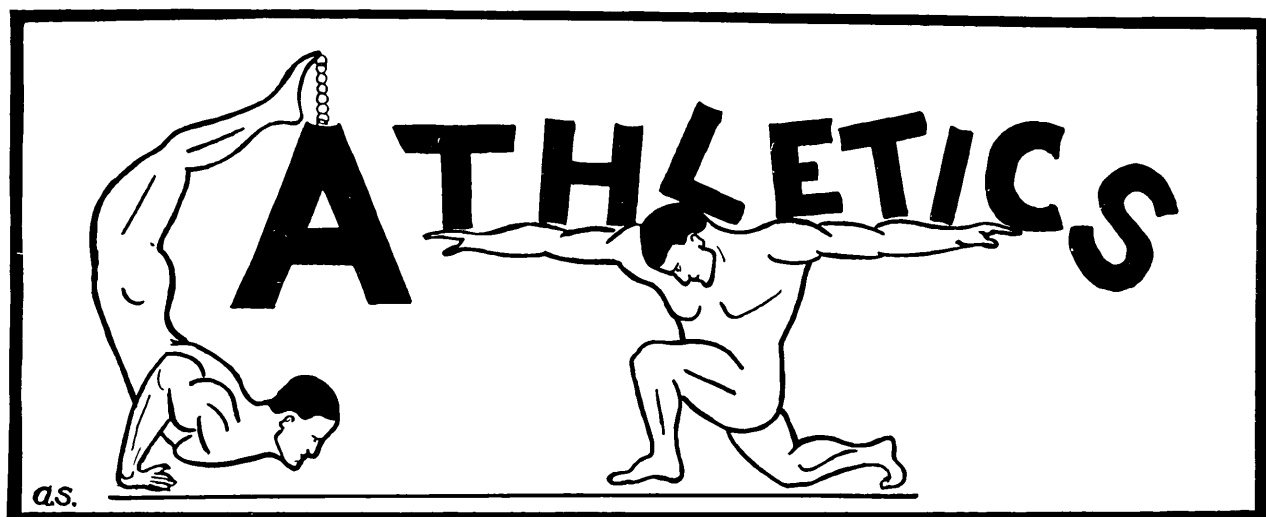
The engagement is announced of Miss Dorothy Parker, '10, and Mr. Will Gibson, of Montreal. The marriage is expected to take place in September.

The engagement of Miss Elise Tait, '10, to Mr. S. St. George of Ste. Anne's is announced.

Miss Frederica Trenholme, '09, returned last summer from her Mediterranean trip and is now at her home in Notre Dame de Grace. "Freddie" has a sister now at Macdonald who is as popular as her twin.

Miss Nellie Trenholme, President of Class '10 last year, is at her home in Westmount, practising the arts of Household Science.

Miss Ada Colwell of Class '10 is at her home in St. John, N.B., studying Art and Music.



## Field Day.

**P**RIOR to Saturday, October 30th, our second annual Field Day, the weather had been cold and rather unsettled, so it was with a feeling of thankfulness that we welcomed that ideal autumn morning, which ended in a no less beautiful afternoon. The only drawback to the day's sport was the necessity of having to run the races partly on the campus and partly on the hard uneven oval in front of the Main Building. This disadvantage prevented the competitors from doing as well as might have been expected under better conditions.

The preliminary heats of those races with a large number of contestants were run off on the preceding Thursday, so that on Field Day, only the finals of these events were necessary.

Besides the hearty support of the fair sex with numerous pennants, even more attractive than the Freshies' new caps, a large number of spectators arrived by the afternoon train to witness the events.

Those intending to enter for the events had been indulging in hard systematic training since College opened

and by the related results of their practices caused a great deal of uncertainty as to the likely winners.

An examination of the prize-list will show that many of the students were well rewarded for their previous hard training.

Ross, our best all round athlete, made an excellent showing, capturing two firsts in the jumps, a second in the 440 yards dash, and a third in throwing the baseball. Having thus gained the highest aggregate of points, he well deserved the honour of receiving the individual Championship Cup, so generously presented to the Association by Dr. Robertson. The 440 yards race was the subject of much comment, furnishing the most spectacular finish of the day, Grindley showing good form and speed throughout and Ross falling just as he reached the finish only slightly behind. Browne, another of our promising athletes, did exceedingly well, receiving the second highest aggregate of points and the bronze medal so kindly donated by Madame Cornu for second championship. The 100 yards dash, always a race of great excitement, proved no exception in this case,

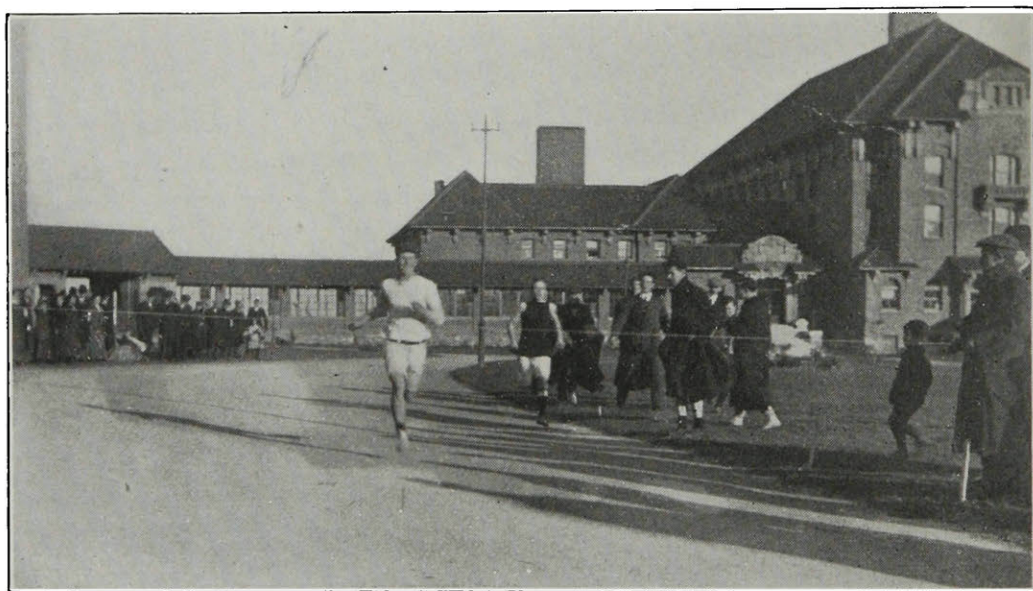
Bond finishing first with Grisdale a close second. Although the order of finishing in the above was reversed in the 220 yards, they were both proved to be sprinters of the first class. Williamson showed himself to be a strong runner by his magnificent finish in the mile and half-mile runs, obtaining first and second places respectively. R. J. Robertson still holds the record for throwing the baseball, throwing it slightly over 100 yards. One of the most exciting and uncertain races of the day was the inter-year relay race, in which the Juniors represented by

are gratifying to those in charge. A word of commendation is due to C. M. Spencer, President of the Athletic Association, and his committee, together with members of the Faculty, whose untiring efforts did so much to make the day such a marked success.

The following is the list of the events and the winners:—

1. Half-mile. Time, 2 minutes, 20 3-5 seconds. First, F. Browne, '12. Second, J. Williamson, '12. Third, W. Gibson, '13.

2. 100 yards dash. Time, 11 seconds. First, W. Bond, '13. Second, F. Gris-



FIELD DAY AT THE COLLEGE, GRISDALE WINNING THE 220 YDS. DASH.

Grindley, Wood, Savage and Grisdale, were victorious. This event concluded the programme, and after much cheering and yells for the winners the crowd dispersed, well satisfied with the afternoon's sport.

The total number of points gained by each year is as follows:—

Freshmen, 30, champions of the day and winners of the cup donated by Dr. Robertson for that honour, Sophomores 27, and Juniors 23. This being the first Field Day for which special preparation had been made the results

dale, '11. Third, B. Richardson, '12.

3. High Jump. Height, 4 feet, 10¾ ins. First, Ross, '13. Second, Emburley, '13, Cooke, '12, equal.

4. 220 yards. Time, 25 4-5 seconds. First, Grisdale, '11. Second, Bond, '13.

5. Broad Jump. Distance, 17 feet, 9 ins. First, Ross, '13. Second, Gordon Wood, '11. Third, Browne, '12.

6. 440 yards. Time, 60 2-5 seconds. First, Grindley, '11. Second, Ross, '13. Third, Robertson, '12.

7. Putting 16 pound shot. Distance 28 feet 4 ins. First, Gibson, '13.



Second, Savage, '11. Third, Spencer, '11.

8. Throwing baseball. Distance 100 yards. First, R. J. Robertson, '12. Second, Sweet, '11. Third, Ross, '13.

9. One Mile Run. Time, 5 minutes, 32 2-5 seconds. First, Williamson, '12. Second, Browne, '12. Third, McClintock, '12.

10. Relay Race. Time 1 minute, 26 seconds. First, Juniors. Second, Sophomores. Third, Freshmen.

The individual standing of competitors having over five points is as follows:

Field Day events, by a concert given by the Athletic Association, heralded by a magnificent poster, the work of Mr. Rhoades.

After a brief address by the President, Mr. C. M. Spencer, the audience enjoyed the rendering, by a male chorus directed by Mr. McDougall, of some verses entitled "Those M. A. C. Girls," set to a popular air. Another highly appreciated feature of the programme was an original farce, entitled "An Hour in a Doctor's Office," which elicited roars



FIELD DAY AT THE COLLEGE, WATCHING THE 440 YDS. RACE.

Ross, '13, 14 points. Browne, '12, 9 points. Grisdale, '11; Bond, '13; Williamson, '12, 8 points. Gibson, '13, 6 points.

Five points were allowed for first place, three for second and one for third, in all events.

### THE ATHLETIC CONCERT.

Added interest was given to the distribution of prizes to the winners of

of laughter. The "Royal Polyglot Symphony Orchestra," too, achieved a great success, which the originality of the costumes and the variety of the instruments thoroughly deserved. Nor must we omit to mention the amusing monologue of Mr. Bruce Flewelling, or the vocal solos of Messrs. McDougall and Robinson, which were vociferously encored, as was also Mr. Savoie's Cornet Solo.

At the conclusion of the Concert, Mrs. Robertson and Mrs. O'Hara presented the prizes to the successful contestants,

whose names were read out by Dr. Harrison. Among the prizes figured the Championship Cup, presented by Dr. Robertson, and won by J. G. Ross, and the bronze medal for second place, presented by Mme. Cornu, and gained by Browne.

### MACDONALD GIRLS' ATHLETIC ASSOCIATION.

#### Officers :

Hon. President, Dr. Robertson.  
 1st. Hon. Vice-President, Dr. Todd.  
 2nd. Hon. Vice-Pres., Miss Torrance.  
 President, Edith Foster.  
 Vice-President, Edythe Watson.  
 Secretary, Frieda Scarff.  
 Treasurer, Agnes Clouston.  
 Baseball Manager, Marian McDonald.  
 Basket Ball Manager, Dorothy Mowat.  
 Manager of Out-Door Athletics,  
 Hazel Moore.

#### Year Representatives.

1st Year Science,  
 Helen Christie, Hazel Bremner.  
 2nd Year Science,  
 Edith Gordon, Garda Crandall.  
 1st Year Teachers,  
 Jean Hogg, Dorothy Petts.  
 2nd Year Teachers,  
 Mildred Russell, Emily Blomeley.

This year, as in other years, the Athletic Association has been one of the most interesting of our organizations. A keen and lively interest has been shown in the different branches of this Association.

Miss Moore, as our most efficient Out-Door Manager, has arranged for us moonlight walks, evenings for skating and snow-shoeing, which have often made Study-Hour more tolerable after the bracing effects of the open air.

Under Miss Mowat's management the Basket Ball Girls have been enthusiastic. The keenest interest is being taken in the preparation for the matches to be played with the R. V. C. Basket Ball team. And they hope to do Mr. Potter's coaching justice by winning back Dr. Todd's handsome trophy. Our first match with the R. V. C. Girls is to be played on the fifteenth of January in our Gymnasium. We had the pleasure of playing with some of our "Old Girls" on the eleventh of December a game which resulted in a victory for the present team.

The Baseball team, with Miss McDonald as manager, has been working hard and with the help of Mr. Barton will do good work in the future. We have had only one match and although that was a failure in some respects, in others it was a great success, as we found out from it what the team was capable of. This match took place on the fourth of December, against the M. A. A. girls. The result was a victory for Montreal, and a score of 33 to 28.

We expect to have class teams in both Basket Ball and Baseball and a series of games will be played during this term. We have already had a match in Baseball—Science vs. Teachers—which took place on the first of December. The Science girls won, the score being 22 to 19.

We all enjoy our Gymnasium work as well as Baseball and Basket Ball. The competition, which is to take place towards the end of this term, lends an impetus to our work in the Gymnasium. The Swimming tank must not be forgotten, as it is one of the chief spots of interest in our Athletic life at Macdonald College.

We took advantage of the fine weather at the beginning of last term and played Baseball on the Girls' Campus.



A great deal of enthusiasm and interest has been shown during last term but we expect this term to hold still greater interests and success.

### THE RINK.

With the approach of Winter it was evident that if the students were to enjoy the pleasures of skating a College rink would be necessary. The Athletic Association, realizing this fact, immediately set out to raise funds to aid in its construction.

As soon as they were in a position to start operations a committee was elected consisting of a manager, and two representatives of each year, who were authorised to supervise all matters pertaining to its construction and management. The rink, which is 180' x 75', is situated on the girl's campus, well sheltered on one side by the Women's residence and

the Main Building, and on the other by wooden windbreaks. Skating began about the middle of December and though at first not very good it has improved until at present there is a sheet of ice that would be a credit to any covered rink.

The thanks of the Student body are due to Dr. Robertson and other members of the Faculty, who have assisted in every possible way, and to the Rink Committee for their able management and strenuous work, which have made the movement a success.

The members of the Rink Committee are as follows:—

Chairman—W. Baird '12

Sec.-Treas.—R. Innes '11.

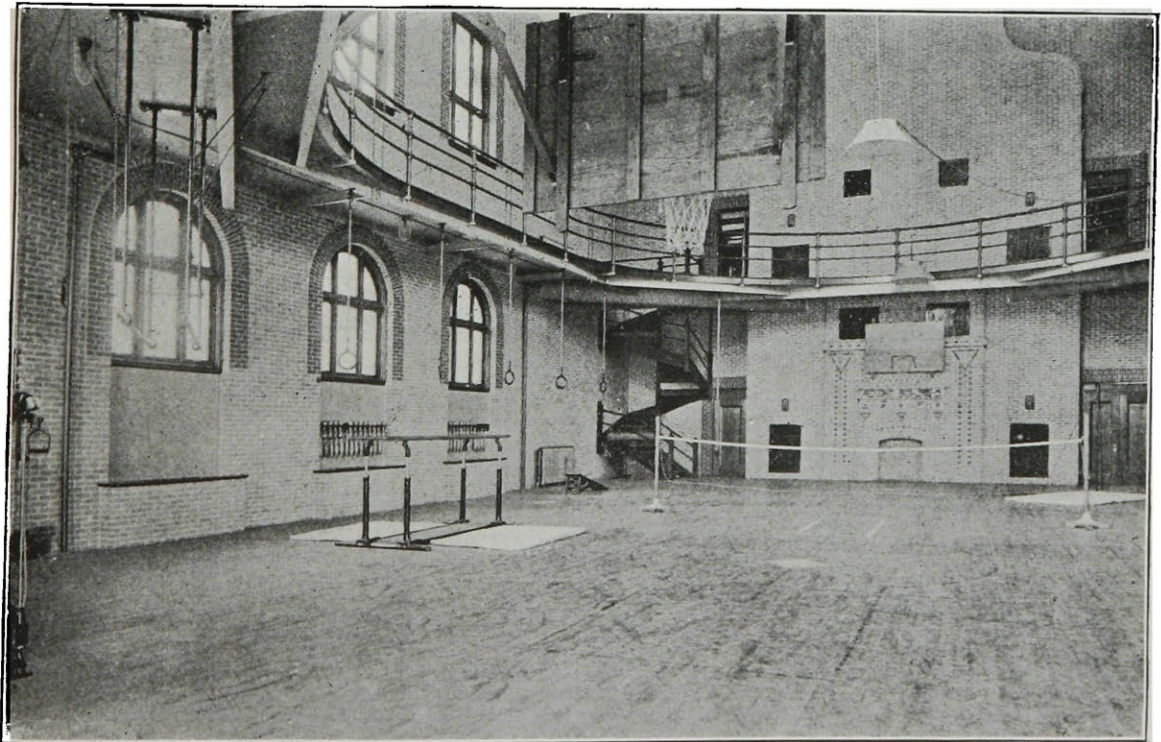
Representatives:—G. Wood '11

H. Flewwelling '12,

A. Campbell, '12.

D. McLagan '13.

G. Ross '13.



THE MEN'S GYMNASIUM, MEN'S RESIDENCE.

## IN LIGHTER VEIN

### ODE TO THE MOSQUITO.

Oh, Skeeter Bug, Oh, Skeeter Bug,  
How could you use me so?  
Not by a swift and sudden flight,  
Or though I jumped from left to right,  
Or beat the air with all my might,  
Could I escape from out your sight,  
Or from your sanguinary bite.

It really doesn't seem quite right  
That for a thing so small and slight,  
So poor and frail—so very light,  
That I should offer such a sight  
Before my fellow creatures.

Within the dark and noisome swamp  
You make your favourite lair,  
From which you come to bite me through  
My clothes and hair,  
On hands and neck without cessation,  
You are the foe of all creation.

Oh, how could you be so revengeful—  
It isn't fair;  
I didn't know that you were there  
And didn't care.

I sought that green and lovely isle  
To rest awhile.  
You drove me headlong from the shore;  
I surely shall return no more;  
My body is a single sore.  
Oh, if I'd only known before,  
I never would have turned an oar  
To such a destination. W. H. B.

\* \* \*

Junior—"How do the Freshmen  
manage to keep those little caps on  
their heads?"

Sophomore—"Oh, vacuum pres-  
sure."

Mrs. M.—(Calling from head of stairs  
at 11 p.m.) "Gretchen!"

Gretchen—"Yes, Mrs. M., what is it?"

Mrs. M.—"I wish you would ask  
that young man where he would like  
to have his trunk put when it comes."

\* \* \*

Phyllis—"You don't act as if I was  
the first girl you ever kissed."

Henry—"If I am the first man who  
ever kissed you, how do you know I  
don't?"

\* \* \*

Sophomore—"Say, Smillie, why look  
so blue? Why don't you look on the  
bright side of things?"

Smillie—"Say, beat it! Which is  
the bright side of a boil?"

\* \* \*

Old Lady—"I want you to take back  
that parrot you sold me. I find that  
it swears very badly."

Bird dealer—"Well, madam, it's a  
rather young bird. It'll learn to swear  
better when it's a bit older."

\* \* \*

Wife—"What would you do if I  
died?"

Husband—"I'd go crazy."

Wife—"Would you marry again?"

Husband—"No, I wouldn't be as  
crazy as that!"

\* \* \*

Prof. S.—"'Salts of Lemon' is the  
common name given to one of the  
oxalates of Potassium."

C. S.—"Is that what they make  
artificial lemonade out of?"



Freshette—"We had a terrible upset at home during the holidays. A young friend of mine, thinking a burglar had broken in, fired off his revolver, and the bullet went right through my hair."

Excited Freshman—"Indeed, and were you in the room at the time?"

\* \* \*

Junior—"I believe the Science girls have started to make their Christmas cakes. Pretty nice, aren't they?"

Miss Stewart—"Yes, you don't eat more than one like them in a lifetime."

\* \* \*

"Everytime I look into the baby's face, he smiles," remarked a College Professor recently.

"Well," answered his wife, "it may not be exactly polite, but it shows he has a sense of humour."

\* \* \*

Science '11—"If you want your eggs to keep, they must be laid in a cool place."

Professor E.—"All right, I'll mention it to the hens at once."

\* \* \*

Keats' poem, "La belle dame sans merci" has been transposed by one of the Juniors, who, on being rudely awakened at 6.45 a.m., exclaimed, as he turned over, "The last thing I read last night was 'La belle dame sans merci', and the first thing I hear this morning is 'La dame belle sans merci!'"

\* \* \*

(Heard at a meeting of the T. L. D. Society.)

W. H. B.—"I have much pleasure in tendering a hearty vote of thanks to you, Professor Lochhead, and the other ladies who have so kindly favoured us this evening."

## MOTTOES IN MEN'S RESIDENCE.

"It is not clothes that makes the man, its the socks."—Williams.

"Fussing is the spice of life."—Cushing.

"A smiling baby is a happy one."—Logan.

"It's better to have loved and lost than never to have loved at all."—McLagan.

"That dark one is a trifler, take the blonde."—Innes.

"I love my 'Steady', but oh, you 'Once in a while.'"—Ross.

"He stoops to conquer."—J. G. Robertson.

"Blest be the tie that binds."—Dash.

\* \* \*

Heard in the Horticultural Nursery.—F.G.—"Say, you might dig up ten *Rosa rugosa* for Buck. He wants to set them out right away."

F. B.—With an astonished look, "ten rows of *rugosa*! How many are there in a row?"

\* \* \*

"Would you marry for money?" asked one girl of another.

"Not I. I want brains," was the reply.

"Yes, I should think so," said the first speaker, "if you don't want to marry for money."

\* \* \*

Dejected Junior—"I would like to return this engagement ring I purchased here a few days ago."

Jeweller—"Didn't it suit the young lady?"

D. J.—"Yes; but another fellow has already given her one like it, and I would like to exchange mine for a wedding present."

## THE POET'S CORNER.

*Prologue :*

I'd eaten nought but lobster, yet I  
lay that night in pain.  
I thought for hours to find out why;  
and then a reason came.

*Monologue :*

I've got it! I must be a poet  
Although till now I did not know it.  
Great thoughts are throbbing to be  
free

Within my cranial cavity.  
That sickening pain which in me yearns  
Is just a sign that genius burns.  
At last my real vocation calls!  
Westminster Abbey's noble walls

Shall hold my dust. For now I see  
The poet's corner is for me.

*Epilogue :*

A finer poem than that I wrote has  
never yet been seen  
And joyfully I sent it to the College  
Magazine.

But when I saw the Board room,  
delighted I was not  
To see the poet's corner there, my  
poem had promptly got.

My manuscript I sadly took  
And realized from just one look  
That genius never caused my pain  
That wicked lobster was to blame.

R. S. K.



Entered according to Act of Parliament of Canada, in the year one thousand nine hundred and ten, by the Students of Macdonald College, Ste. Anne de Bellevue, P.Q. in the office of the Minister of Agriculture.

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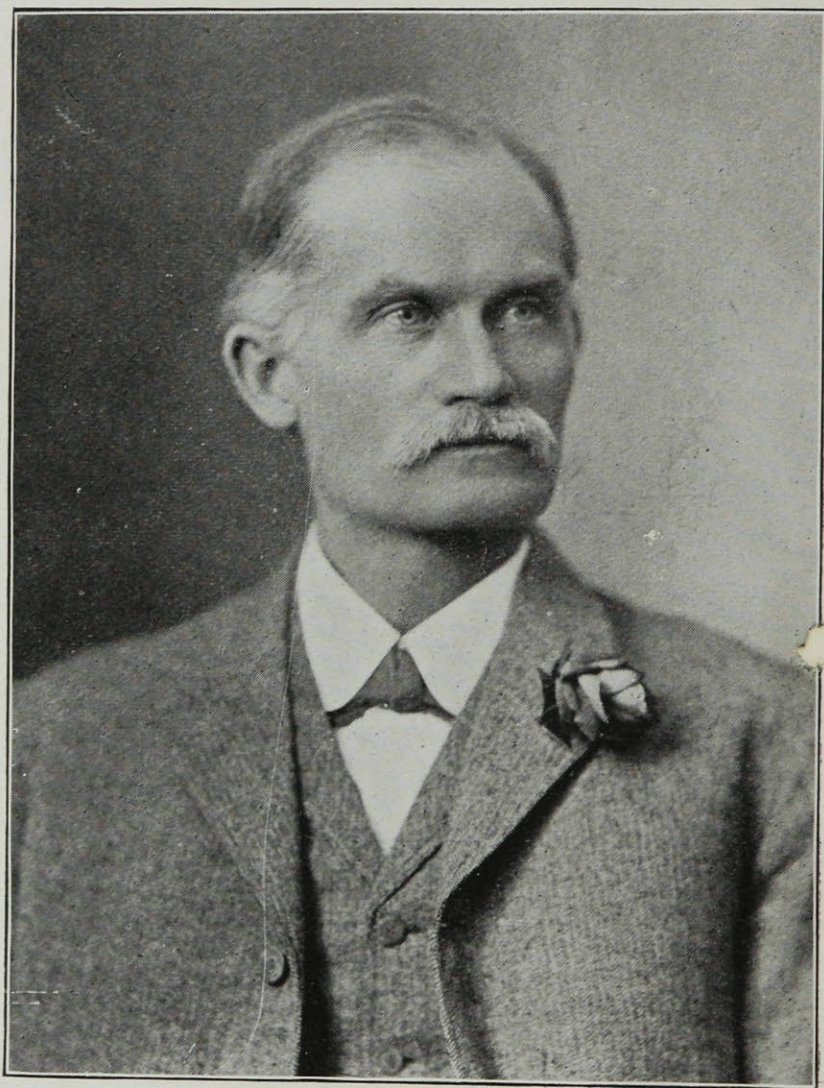
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F. C. HARRISON, B.S.A., D.Sc., (Secretary).







J. W. ROBERTSON, LL.D., D.Sc., C.M.G.

## James Wilson Robertson



JAMES WILSON ROBERTSON was born in Scotland, in 1857, in the parish of Dunlop in Ayrshire.

According to the more general custom prevailing at that date, he left school in his 15th year and was apprenticed as clerk to a manufacturing firm in Glasgow. He remained with this firm for three years and received an excellent business training. This training has meant much to him in his life's work.

In 1875 Robertson's father, with his family, came to Canada and bought a farm three miles from London, Ontario. Soon after his arrival, young Robertson, who was then working with his father on the farm, saw the great opportunities which Canada had of supplying the growing demand in Great Britain for cheese and butter. With a foresight which perhaps few other men possessed, he saw instinctively that Canada had a splendid opportunity of capturing the British markets for dairy products of prime quality, which were in such great demand in the British Isles. From this time forward he applied himself to working at a cause, the successful issue of which has been no mean factor in developing Canadian agriculture. This period in his life's work (1878-1899) might well be called "Personal Progress with National Development." From a personal standpoint this progress was the result of uncommon ability, energy, tact, and an exceedingly sensitive and

fine type of conscience which impelled him to place his knowledge and successful methods at the service of others. These characteristics, combined with that spirit of determination which is so typical of his countrymen, made it easy for him not only to win a personal success, but also to attract to his methods the attention of many classes of the community. His work for a few years consisted chiefly in looking after cheese factories formed by various Joint Stock Companies of farmers.

His success in this connection may best be indicated by quoting what others have said of him:—"In a few short months he was looking after eight of these factories and doing well by them all. His talent for administration and initiative was already in evidence. Many of his winter evenings he spent in addressing, first in groups of twenty or so, and later in assemblies of 100 or more, the farmers and dairymen of his district." It has been said of him, (we quote from the same source), "In dexterity and information Robertson has his peers; in good will, in the passion to have his neighbors thrive as himself, I know not his equal." During this period of his life, he followed courses of studies in the winters. Throughout the summer he continued his dairy work and his policy of disseminating information more vigorously than ever till 1886. By this time his work had become known throughout all that section of Ontario, and a little later in

the same year (1886), the Ontario Government asked him to become Professor of Dairy Husbandry at the Agricultural College at Guelph, Ontario, in order that he might promote and advance the Dairying of the Province at large. By this time it had been clearly recognized that his work, and the methods which he advocated, had a National significance vital to Canadian agriculture.

As Professor at the Guelph College he still pursued his policy of working for the farmers, explaining to his hearers at Institute meetings, and whenever he travelled with the famous "Travelling Dairies" sent out from that College, how care and intelligence, order and cleanliness, could better their products and lighten their toil. During his work at this college, he accompanied shipments from Canadian farms and dairies to the markets of Great Britain, and in order to find out about the butter from Denmark, the bacon from Ireland, the eggs and poultry from France, and the apples from the United States, and why they found such favor in the markets of Great Britain, he visited these countries, and thoroughly investigated conditions. Another quotation will best show the extent of the success which it was his to achieve in this National work: "In 1890 Robertson was appointed Commissioner of Dairying for the Dominion so that the good practice of Ontario might extend to her sister Provinces. Soon Canadian farmers, dairymen, railroad managers, and steamship owners joined hands to develop a trade which grew fast to stupendous proportions. Backed throughout by the Dominion Treasury, the dairy exports, which in 1890 were but \$9,700,000.00, rose in 1900 to \$25,000,000.00 and in 1906 reached \$31,500,-

000.00. The man who chiefly achieved this great result had a National helm in his hand."

Five years later he was given the additional post of Commissioner of Agriculture for the Dominion. "Loyally did he discharge his trusts. From ocean to ocean he lifted farming and dairying to new excellence, until his ambition to see their methods at the highest level, seems fast approaching fulfilment."

For two reasons, the first, want of space, and the second, because the subjects cannot be adequately treated in an article which is no more than a biographical sketch, the achievements of the last eleven years of his life will have to be passed over much more rapidly.

Always delighting in his work and fulfilling his duty as a trained expert and an enthusiast, he gained great experience as an educator in the course of his travels over every part of our great Dominion. In 1899, however, he conceived the idea of attacking the great problem of improved farming from another standpoint. Hitherto he had been addressing the adult population. Why not appeal to young Canada? Why not educate from the start the farm boy and girl in the best of farm practice and ideal living? Along the lines of this idea he offered \$100 in prizes to boys and girls who would send him the largest heads from the sturdiest wheat and oats on their fathers' farms. The success of this initial effort (of which the seed grain prizes were only an instance) in a great far-reaching educational policy for Canada was so successful that he enlisted the valuable sympathy and aid of Sir William Macdonald. This union of forces opened a new chapter in his life's work. He now turned his attention more par-



ticularly to National educational policies for the rural population, and during the last ten years he has originated and developed, in consultation and co-operation with Sir William Macdonald, some of the greatest and most far-reaching educational plans of modern times.

His work from now on may best be described as "Advancement of Education and Building of Empire." The \$100 prize scheme was the beginning of the Seed Commissioners' Branch of the Dominion Department of Agriculture and also of that now flourishing and vitally important organization known as the Canadian Seed Growers' Association. First in order following this came the Manual Training campaign, which in turn was followed by the successful efforts, carried out at great cost, to consolidate and reform many country schools. This scheme included the School Garden Movement, with illustration plots. These later became an exceedingly valuable method of impressing upon the plastic mind of the country child an illustration of what Dr. Robertson calls the tripod of good farming, which is (1) Sowing selected seed on prepared soil, (2) Protecting the crops against insects and fungus diseases, and (3) A rotation of crops adapted to the soil, the climate, the labor conditions and the markets. These practices and the principles underlying them are demonstrated in the Macdonald School Gardens.

Having done all this for the child, particularly the rural child, these two men, the one the originator and organizer and the other the generous donor of money to carry the schemes through, now turned their attention to the teacher who should train the child, and in consequence, a splendid Teachers' Training and Household Science College was

erected in connection with the Provincial Agricultural College at Guelph, in order to give instruction to teachers and farmers' daughters of the Province of Ontario.

Finally, as a culminating work to this splendid and vitally important effort on behalf of rural Canada, came the Macdonald College at Ste. Anne de Bellevue, a college which, as one of the greatest authorities in that progressive nation to the south of us has said, "Is a leader in a department of education which is still new."

Into these six great movements for educational reform and the betterment of rural life, Dr. Robertson has thrown all the force, untiring energy, uncommon ability, and irresistible personality of the most fruitful years of his life.

Allusions have already been made to Dr. Robertson's personality. These further quotations may be of interest.

"Big-hearted and generous, eager, almost boyish in his enthusiasm, quick to think, quick to act, ready to catch at new ideas, he inspires one with some of his own enthusiasm . . . . . He is a student, a teacher, and a worker, combined in as happy a combination as has ever been found."

"There is little in the outward appearance of the man to attract attention. The tall, thin, slightly stooping figure, the drooping grey moustache and the firm chin, bear the stamp of a typical middle-aged Scottish gentleman. But a nearer acquaintance with him reveals that combination of rare qualities which has placed him in the front rank of Canada's great men, and has won him the esteem and the enthusiastic devotion of scores of different natures. His unassuming yet charming manner has its way where a more aggressive personality might only arouse resistance."

**DR. ROBERTSON AS A FORCE IN PUBLIC LIFE AND AN INSPIRER OF MEN.**

In looking over the work of this man one is impressed with its broadness and loftiness of aim. All his work has been characterized by its originality and by the way in which it has been organized and executed. He himself, as it were, has been the forerunner of his own

men and women of the next generation; second, give the best training to the teacher who trains these children and pay these teachers salaries befitting the trustees of the nation's intellectual and moral life; third, give the best training to the girls who are to be the homemakers of the morrow, and fourth, give the best training to the farmers and the



DR. AND MRS. J. W. ROBERTSON.

gospel. This gospel is primarily for the rural population of Canada, but it by no means ends there. His aim is Empire Building, and he has never lost an opportunity of presenting the needs of the people and proclaiming to all classes of society the remedies which are being devised to meet those needs. This gospel, as he himself has said many times, has four fundamental propositions—first, give the best training to the children who are to make the

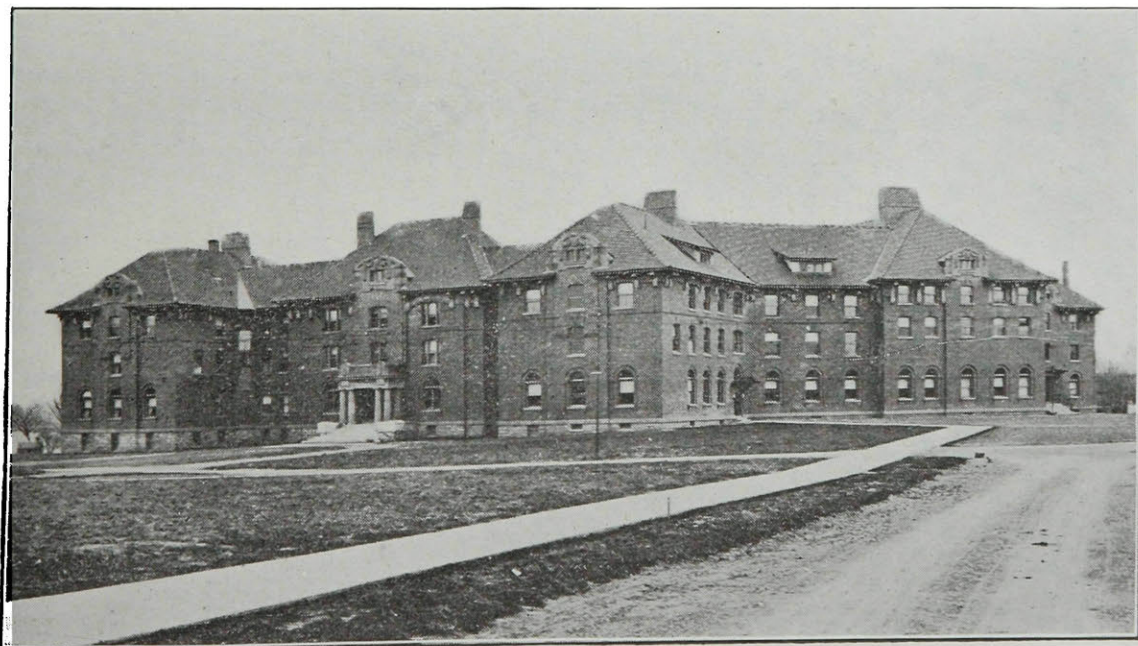
farmers' sons, who are to develop the resources of one of the richest of the many splendid parts of that Empire which is the greatest Empire in the world. This gospel he has preached alike before rich and poor, before teachers and children, before farmers and citizens, country gatherings and legislatures. His success in public life and in public speaking is due no doubt to the happy faculty which he has of inspiring others with his own ideals,



and to a supreme mastery of the art of persuasiveness. However, it must be pointed out that the reason why the public utterances of this man, who is an idealist, are generally favorably received, is this, his ideals are not too far in advance of his age. It has been well said of him that he is "the greatest political force in Canada."

Dr. Robertson is still in the prime of life, and it is easy to see that this country can look to him for yet greater things. His policies for the development of Agriculture and for National development through education have been International rather than Provincial in character. It is safe to affirm that were it possible to deprive Canada of the results of this man's work done during the last two or three decades, thousands of her population would be less happy and prosperous. And it is equally true to

say that Canada itself would occupy a less distinguished place in the British Empire. But his passion to do work "which shall be a blessing to others," and his power to inspire other men to work unselfishly as he himself works, have also made him a great force in moulding the destinies of a nation. The opportunities which he has had, of stimulating Canadians in all that is good and progressive, have already been great but they are to be greater. James Wilson Robertson is more than a "political force" exerting ephemeral influences. The influence which he exerts will live on in the lives of great numbers of men, women and children. If we were asked to sum up in a single sentence his personality and work as far as we have been permitted to know them, we might say they are one, and no life better exemplifies "Mastery for Service"—the motto which he gave to Macdonald College.



THE MEN'S RESIDENCE, MACDONALD COLLEGE.

## Farm Water Supply

By F. C. HARRISON, D. SC., Professor of Bacteriology at Macdonald College.

1. KINDS OF WATER.—Water which is used for drinking purposes may be divided into the following classes, according to the sources from which it is obtained.

Rain water.

Well water	{	Dug or shallow wells.
		Driven wells.
		Artesian wells.

Spring water.

River or lake water.

Sea water

All of the above waters must be regarded as a mixture of water and other substances, for, as is well known, water absorbs and dissolves many things, which, although they cannot be seen, are present, and may be recovered by evaporation. Thus water from a limestone region contains a certain amount of lime, and from a mineral region it may absorb salt or some other mineral. The waste water from our towns and cities contains the washings of stables, shops, laundries, the discharges of bath tubs, water closets and the refuse from streets and gutters. The mixture of all these is called sewage or sewer water.

Pure water is therefore very rare and very scarce, occurring only in fresh falling rain or snow in high regions above the line of human dwelling, and the natural water we use is usually a mixture, but may be termed pure when it is clear and contains only substances harmless to health and life.

Large amounts of water are needed on a farm, for horses drink from 8 to 10 gallons a day, milch cattle 10 to 16 gallons, steers 7 to 12 gallons and hogs half a gallon to a gallon, and each person,

for washing, cooking and other purposes, uses from 20 to 50 gallons a day, and if a water system for the disposal of sewage is used, double the above quantities.

Most farms use surface waters as their chief source of supply, and all such waters are liable to contamination by impurities from the surface, drainage from the soil, sewage, barnyard seepage, cesspools, house slops, etc., and the more inhabited the district the greater is the probability and amount of contamination.

Water is a vehicle by which many diseases are carried, as for example typhoid fever, cholera, dysentery, and diarrhoea in man; and hog cholera and other parasitic diseases of stock caused by low forms of animal life.

Hence, it is necessary for each farm to have an abundant and pure water supply, but unfortunately this is not always the case, for more than half the samples of water sent from farms for analysis to the various Agricultural Colleges and Experiment Stations are poor waters, not fit for domestic purposes and liable to cause disease, as they show evidence of sewage contamination. Health Statistics also show us that there is an undue prevalence of typhoid fever among the rural population, and this fact points to the poor quality of farm water supply.

From an inspection of the water supply of many farms, the writer is forced to the conclusion that on most farms the wells are badly situated and badly constructed, and it is the purpose of this article to discuss these aspects of the farm water problem, illustrating the



commoner faults and suggesting means for their correction.

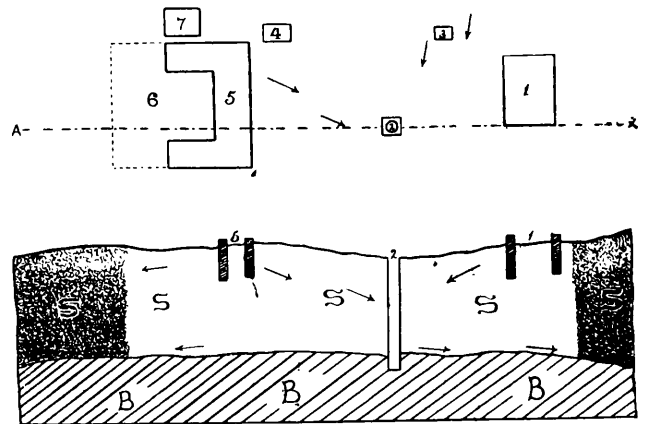
**THE LOCATION OF WELLS.** — Many farm wells are badly located, with unsanitary surroundings, such as proximity to out-houses, cess-pools, barnyard, or stables. No account has been taken of the slope of the surface ground; and rarely is the nature and slope of the subsoil ascertained. The principal factor in the location of the well from the farmer's standpoint is usually that of *convenience*. Other factors are not regarded, or considered of no importance.

Let us first discuss the essential points in choosing the site for a dug well. There should be at least from 75 to 100 feet between the well and probable sources of contamination, such as an outhouse, stable, cesspool, etc. This distance is even then too small if the soil is very porous, if the surface drainage is toward the well, or if the subsoil slopes toward the well, or if the well is in a very fissured rock; for it is obvious that there are many chances of contamination in any of the above circumstances. The principal facts to note are:

1. That surface drainage must be away from the well.
2. That so far as possible the subsoil drainage must be *from* the well.

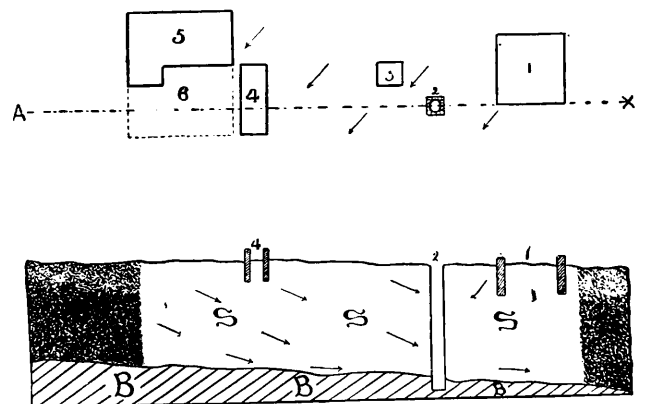
These points are illustrated in the accompanying sketches. No. 1 shows in the plan that the surface drainage is *toward* the well, from the house, privy, stables, and barnyard. The section through the line A shows the relation of the impervious subsoil B. to the drainage. Water falling on the surface of the ground would penetrate through the soil to the upper portion of the subsoil and then move along it in the direction of the greatest slope. In this sketch the subsoil drainage is away from the well, and in this respect

the well is located properly, but in respect to the surface drainage, improperly; a better place for the well would be found at the letter X.



SKETCH 1.

In sketch number 2, the surface drainage—including that from the adjacent outhouse at (3), which is too close to the well—is toward the barn and away from the well, but the subsoil drainage from all the buildings, except the house, is in the direction of the well, and thus contamination of the water supply is liable to occur.

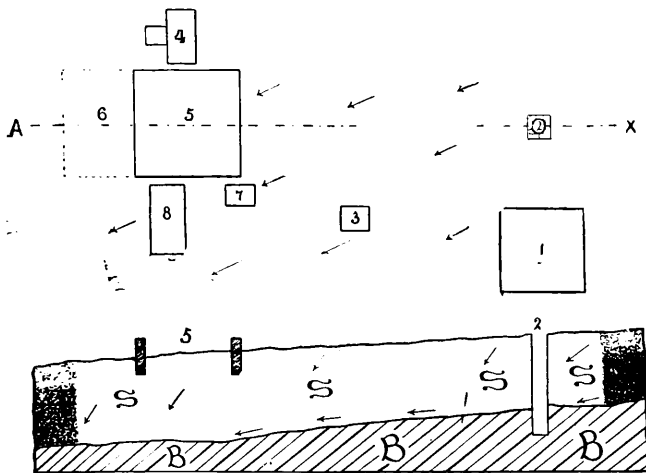


SKETCH 2.

Sketch 3 shows a well properly located as regards surface and subsoil drainage—such a well should give a pure water supply, provided it was properly constructed.

The writer would advise every farmer to make a sketch showing the topography and location of his well and

buildings, marking the distances of the buildings from the well, the direction of the flow of the surface water, and if possible a section of the ground showing the direction of the flow of the subsoil water. This is quite possible, as indications of the depth and slope of the subsoil are usually obtained in



SKETCH 3.

digging the foundations of the various farm buildings, or the distance and character of most subsoils may be found out by probing with a long steel bar.

The writer is prepared to criticise and suggest any improvements on any such plans sent to him.

### THE CONSTRUCTION OF WELLS.

PRINCIPLES UNDERLYING THE CONSTRUCTION OF WELLS.—Everyone knows that when rain falls on the surface of the ground it immediately becomes dirty or muddy, but as it percolates through the spaces and interstices of the ground the suspended matter remains behind and the water becomes clear and limpid; not only are the coarse particles or visible dirt removed but also the living forms of life that are called bacteria.

Put in other words, the soil has acted as a **natural** filter, but what is the cause or reason for this wonderful action of the soil? How is it that bacteria, the smallest of living plants, which can

easily pass, literally by thousands, through the smallest spaces, are arrested in their passage through the soil? The answers to these questions may best be made by reference to artificial gravel filters which are used to filter the water supplies of large cities and towns. These are made of a certain thickness of coarse gravel, upon which is placed about a foot of clean sharp sand. The water to be filtered is allowed to run on this sandy bed, and percolates through the spaces in the sand; the water that comes through may be somewhat clearer, as the coarse particles are caught in the spaces between the grains of sand, but the number of bacteria coming through are actually more than in the original water, as the pores in the sand seem to favor microbial growth. Let this process continue, however, and gradually the number of bacteria coming through diminishes day by day, until some 99 per cent. are excluded by the sand filter. The reason of this startling change is that the bacteria grow in the pores of the upper layers of sand, and as they grow and increase in numbers they become surrounded by a slimy gelatinous envelope, just like flax seed that has been steeped in water. This slimy material fills the spaces between the particles of sand, and more bacteria on coming along are arrested and imprisoned in the slimy network, and as Prudden describes it, "like good prisoners they set to work to make the best of the situation, and if their nature permits, turn to and help to make more of this trap-slime to capture the next comers."

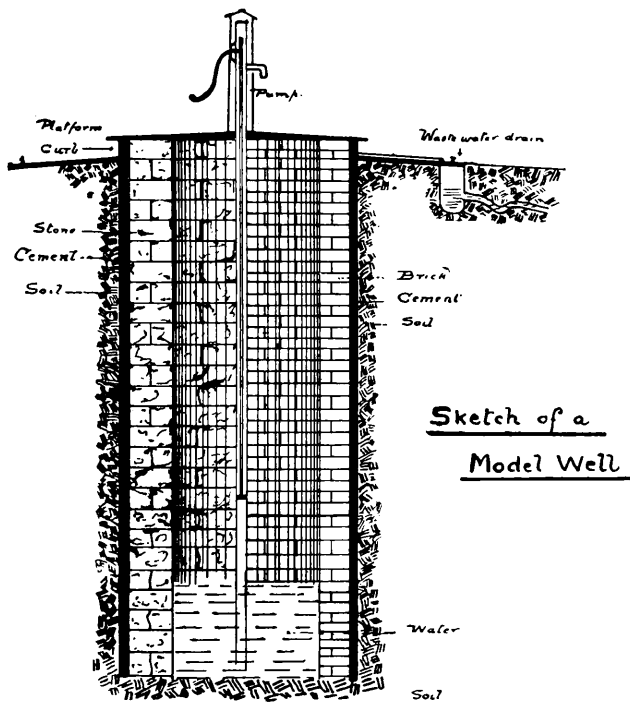
These bacteria fulfil another useful purpose, as by their growth they are able to attack and destroy the organic refuse in the dirty unfiltered water. Thus the sand by reason of its content

of living beings or bacteria is able to purify or filter water. In most cases the same conditions are present in ordinary soils in which wells are dug. The "living earth" as it is termed, or the bacteria in the soil spaces, by their growth and the formation of slimy or gelatinous envelopes, arrest the bacteria that are washed downwards after rain, and hence, if properly constructed, the water in wells becomes purified and

which may or may not be harmless, this depending on the surroundings of the well or wells. Wells made with open stone, brick, or wooden cribwork, are faulty, because they allow the surface water to get into the well through the openings between the stones or wood. When wood is used it adds a certain amount of organic matter to the water, as it decays, and this material acts as food for the bacteria present in the water. Too many wells have no curbs and no covers, thus permitting frequent contamination from surface drainage, animals, etc.

The accompanying illustration shews the proper construction of a well in brick or stone. Large vitrified drain pipe with cemented joints would answer equally well when there is an abundant supply of water, but in those cases where the supply of water is less, a larger area is needed, and a stone or brick well is necessary.

Reference to the illustration will show that every endeavor is made to prevent surface water entering the well. The walls are impervious, and the earth or clay is well rammed against the outer wall. The curb is carried well above the surface of the ground. The waste water is conducted by means of a sloping platform, trap and drain, away from the well—and the well opening is properly covered. All water entering such a well must percolate through a considerable depth of soil, and undergo purification by means of the aggregations of living bacteria in the soil spaces, a casting out of devils by means of Beelzebub the prince of devils.



SKETCH 4.

freed from bacteria. A certain depth of soil is necessary for effective filtration; in sandy soils the depth would have to be greater than in a loamy soil, as in the former case the soil spaces are larger, and water percolates quicker, and the bacterial slime takes longer to form. We see, therefore, that every endeavor must be made to keep surface water from getting into the well, as such water contains suspended matter, and bacteria,

## The French and English in Canada

ARTICLE II.—BY A FRENCH CANADIAN.

EDITORS' NOTE.—In our last issue we printed an article on this subject, written from the English point of view. We now place before our readers an article on the same question, as seen from the French-Canadian's standpoint. The articles may be regarded as two different answers to one question, namely:—What are the causes of the present state of friction, and mutual distrust, even hostility, between the two peoples? That question was put to a prominent member of the staff of a large French newspaper, and here is his reply.



YOU HAVE given me, without doubt, a very interesting question, but one of a very delicate nature; not that I feel any embarrassment in answering it or that I fear the least disavowal on the part of my compatriots, but because of the great difference in the ways of thought between British subjects from the United Kingdom and British subjects who are born or have settled in Canada.

Your question amounts to this: "What do you think, you French-Canadians, of your English and Scotch compatriots?"

I am going to answer you in all sincerity, understanding that my reply will be regarded as a contribution to ethnology, and without fear that anything can weaken one of my statements. In consideration of the fact that, owing to limited space, I am unable to cite those public, evidential, and

notorious facts which furnish irrefutable proof of our complaints, I shall be obliged to rely simply upon a statement of the truth.

Like you, we believe, we French-Canadians, that the essential condition of our national prosperity rests upon an *entente* between the races.

Now, and it is a great misfortune for our country, not only is there no *entente* between the races, but there is rivalry, jealousy, and animadversion.

The French-Canadians have tried, are still trying, and will always try, to bring about a fusion between the different ethnic elements composing the Canadian people, if not from the standpoint of sympathy, at least from that of the general interests of the country. But it is in vain. They are dupes of their generosity, of their advances, of their loyalty. And they will always be so, at least if they do not make a radical change in their tactics. This would be desirable.

The English element repels with scorn the French-Canadian element, and with insolent haughtiness makes no bones about proclaiming, even in centres where the English are in a minority, as, for example, in the Province of Quebec, that the French-Canadians are an inferior race.

It would be out of place here to protest against this estimation; therefore I content myself with merely drawing your attention to it, and pass to a rapid, but at the same time faithful analysis of the characteristics of our English-speaking compatriots.



Of the two main race-components of the English-speaking element, let us first take the English. Their character is marked by qualities peculiarly galling to men of another race; haughtiness, self-sufficiency, pride, presumption.

The Englishman calls himself, and believes himself to be, master of the country, even though he arrived one hundred and fifty years after the French, who had civilized and colonized it. He asserts that he belongs to a superior race, and this assertion is based solely upon his wealth, his only real superiority. He refuses to speak the French language, while the French-

itself infinitely superior to the equivalent French-Canadian class.

Even the Englishman of low character, who leaves his country for reasons, perhaps, that he would not care to speak about, sets himself up with the air of a master as soon as he puts his foot on Canadian soil. To him we are merely common colonists, unworthy to stand beside him, who is the essence of superiority. Of that he is convinced.

When an Englishman goes to a place exclusively French, where his language is not spoken by everybody, he becomes indignant and does not understand



ON THE OTTAWA, NEAR THE COLLEGE.

Canadians have a knowledge of the two languages. Notwithstanding that, even in French centres like the Province of Quebec, English business houses employ French-Canadians only when they are absolutely unable to dispense with their services, and, besides, keep them always, systematically, in inferior employment. Their scorn for us is so great that they forbid their children to play with little French-Canadians. This regulation is broken only under stress of circumstances, in populous and poor quarters where mixture is inevitable. But even in this case the English populace considers

how in an English colony there is anything but English there. Then he devotes to English hatred the pioneers of the soil, the martyrs of colonization.

I make a digression here to tell you that this estimation of the English refers only to the English who have been living in Canada for some time, and not to travellers from Old England who spend a short time with us. In these, in common with the rest of the world, we recognize qualities of honesty, urbanity and balance.

Unfortunately, when the English come to Canada to live, to go into business, to settle down, they do not

hesitate to manifest hostility towards the French element of the country, notwithstanding the cordiality of the welcome that they receive, and the efforts that the French-Canadians make to fraternize frankly with them. But the English do not want to mix, and they resist all these advances. Their sole aim is not merely the absorption of the French race but its suppression. As far as the Scotch are concerned, the intercourse between them and us, without bearing the stamp of frank cordiality, is much pleasanter. Is this because of affinity of origin, the Scotch being of the Celtic race and the French-Canadians of Norman race? It is possible. The Scotch always, particularly in the country, mix willingly with the French-Canadians, and marriages are not infrequent amongst them.

The Scotch living in the cities generally occupy good social positions. They are, for the most part, well off, and are proud of their origin. Unlike the Irish and English, they do not scorn the French element.

The Scotch are industrious and fair-dealing. Their greatest fault is meanness, that is to say that they possess the vice of a quality, economy, that they push to excess. In agriculture the Scotchman is considered to be a model. He is an intelligent, courageous workman, whose lands are kept in superb condition. If you pass by a farm well cultivated, well kept up, with an air of well-being, order and neatness, you may say without danger of making a mistake, that it belongs to a Scotchman. On the whole there is at least a latent sympathy between Scotch and French.

If there were in Canada only the Scotch and the French, these two elements would live on good terms, mixing without losing their characteristics, making an exchange of qualities peculiar to each race, which would procure for Canadians and for Canada that tranquillity, that mutual esteem, that national peace, without which a people composed of divers elements cannot prosper.